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ABSTRACT

Activities and findings of the Statistical Analysis Group in Education (SAGE), which sought (1) to develop and validate financial and nonfinancial indicators of college or university viability and (2) to measure institutional viability of types of colleges related to federal policy goals for higher education. Development of the longitudinal file (1974-75 through 1977-78) containing statistics on virtually all U.S. colleges are discussed, along with reliability and validity issues regarding the Higher Education General Information Survey (HEGIS) data. Sixty-one indicators were selected as possibly being related to institutional viability. All had been suggested by experts in the field, used in previous research, or published in reports on the status of higher education institutions. To validate the relation of these indicators to institutional viability, certain colleges were identified as probably being in distress in each year based on a combination of objective measures in the file: closure; default on a federal loan; and extreme enrollment declines, reduction in faculty salaries, declines in current fund balances (for private colleges), and declines in current fund revenues (for public colleges). Almost no public universities, four-year colleges, or private universities were identified as being in distress. The indicators found to be related to distress were used to construct a summary index of viability defined separately for each educational sector. The summary measure of viability accurately classified colleges as being in distress in the year for which it was developed--1978. Distributions of the summary measure (converted into five grades of viability--"A" down to "E") are displayed for a variety of different kinds of colleges (e.g., traditionally black colleges, women's colleges, two-year vocational colleges). Twelve kinds of colleges were found to frequently receive low scores on the summary measures (i.e., grades of "D" or "E"). Means on the 61 indicators are appended. (Author/LB)

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Technical Report No. 19

Development of Indicators of the Viability of Higher Education Institutions

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September 1981

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Summary

This report describes the activities and findings of one of the tasks performed by the Statistical Analysis Group in Education (SAGE). The background and previous accomplishments of this effort are summarized, extending back to related activities in the previous SAGE contract. The development and refinement of the longitudinal file (1974-75 through 1977-78) containing statistics on virtually all colleges and universities in the country are described. Issues concerning the reliability and validity of Higher Education General Information Survey (HEGIS) data are addressed at the end of the introductory section, since HEGIS surveys are the source for most of the data in the file.

Sixty-one indicators were selected as possibly being related to institutional viability. All had been suggested by experts in the field, had been used in previous research, or had been published in reports on the current status of higher education institutions. Each indicator was computed in two forms for the years covered in the file. The static form measured the indicator's value in a particular year, while the change form measured the difference in values over time.

To validate the relation of these indicators to institutional viability, certain colleges were identified as probably being in distress in each year based on a combination of objective measures in the file: closure, default on a federal loan, extreme enrollment declines, extreme reduction in salaries paid to faculty, extreme declines in current fund balances (for private colleges), and extreme declines in current fund revenues (for public colleges). The static and change forms of each indicator were validated (or, in many cases, invalidated) through comparison of mean values for colleges in distress (and therefore presumably not viable) and for colleges not known to be in distress, separately by educational sector. These analyses could not be performed for public universities or 4-year colleges or for private universities because almost none of these types of colleges were identified as being in distress.

The indicators found to be related to distress for each educational sector were used to construct a summary index of viability defined separately for each sector. The summary measure of viability was able to accurately classify colleges as being in distress in the year for which it was developed--1978. Similar, but not identical, summary measures could be computed for the years 1977 and 1976, and they performed reasonably well in identifying colleges in distress in those years.

Distributions of the summary measure (converted into five grades of viability--"A" down to "E") are displayed for a variety of different kinds of colleges (e.g., traditionally black colleges, women's colleges, two-year vocational colleges). Twelve kinds of colleges were found to frequently receive low scores on the summary measure (i.e., grades of "D" or "E"). For each of these kinds of colleges, those with low scores were compared to all other colleges in their sector to determine in which ways the distress was manifested. Colleges with similar scores on the summary measure were found to have different patterns of distress depending on the college's mission.

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TABLE OF CONTENTS

	Page
INTRODUCTION AND BACKGROUND	1
Creating the Longitudinal File	2
Reliability and Validity of HEGIS Data	6
REFINEMENT OF THE FILE	10
Merging Branch Campuses of College Systems	11
Temporarily Deleting Unusual Colleges	13
DEVELOPMENT OF PROSPECTIVE INDICATORS	15
Calculation of Static and Change Indicators	21
Flags of Various Conditions	22
VALIDATION OF INDICATORS	23
Selection of Colleges in Distress	24
Validation of Individual Indicators	32
DEVELOPMENT OF A COMPOSITE INDEX OF INSTITUTIONAL VIABILITY	42
Validation of the Index	45
ANALYSIS OF WHICH TYPES OF COLLEGES ARE OFTEN NOT VIABLE AND WHY	51
Sources of Distress for Various Kinds of Colleges	67
FUTURE RESEARCH	76
REFERENCES	78
APPENDIX: Means on the 61 Indicators for Colleges in Distress and Colleges Not Known to Be in Distress in 1978, Separately by Sector	81

LIST OF TABLES AND FIGURES

	Tables	Page
Table 1:	Data Sources Merged to Form the Longitudinal File	5
Table 2:	Unusual Types of Colleges Not Included during the Development of Viability Indicators	14
Table 3:	Selected Indicators Thought to Be Related to Institutional Viability	16
Table 4:	Summary of Chi-Square Tests between Conditions of Distress in 1978, Separately by Type of Control	27
Table 5:	Colleges Experiencing Various Distress Conditions and Labeled as Being in Distress, by Year and by Public vs. Private	29
Table 6:	Colleges Identified as Being in Distress, by Type of Distress and Educational Sector: 1978	30
Table 7:	Summary of Results from Validation of Indicators, Separately by Sector	34
Table 8:	Classification "Accuracy" of the Discriminant Functions in 1978, Separately by Sector	46
Table 9:	Classification "Accuracy" of the Discriminant Functions in 1977, Separately by Sector	49
Table 10:	Classification "Accuracy" of the Discriminant Functions in 1976, Separately by Sector	50
Table 11:	Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector=Private Four-Year Colleges	68
Table 12:	Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector=Private Two-Year Colleges	71
Table 13:	Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector=Public Two-Year Colleges	72

Page

Figures

Figure 1: Transition probabilities between being and not being in various kinds of distress in successive years 31

Figure 2: Frequency distribution of the composite index of distress for private four-year colleges in 1978, separately for colleges not known to be in distress and colleges identified as being in distress 42

Figure 3: Frequency distribution of the composite index of distress for private two-year colleges in 1978, separately for colleges not known to be in distress and colleges identified as being in distress 43

Figure 4: Frequency distribution of the composite index of distress for public two-year colleges in 1978, separately for colleges not known to be in distress and colleges identified as being in distress 44

Figure 5: Frequency distribution of the composite index of distress developed for private four-year colleges when applied to private universities in 1978 47

Figure 6: Frequency distribution of all summary distress grades in 1978 52

Figure 7: Frequency distributions of summary distress grades in 1978 by Carnegie and NCHEMS institutional classifications 54

Figure 8: Frequency distributions of summary distress grades in 1978 for traditionally black colleges and by predominant racial/ethnic group of students 60

Figure 9: Frequency distributions of summary distress grades in 1978 for single-sex and coordinate single-sex colleges and for colleges with predominantly female students 61

Figure 10: Frequency distributions of summary distress grades in 1978 for all religiously affiliated colleges and separately for the seven sects with the largest numbers of colleges 62

Figure 11: Frequency distributions of summary distress grades in 1978 for Title III institutions and for colleges with either a high proportion of students receiving BEOG awards or with high mean BEOG awards per FTE student . . . 65

Development of Indicators of the Viability of Higher Education Institutions

INTRODUCTION AND BACKGROUND

A number of research studies have been conducted for the purpose of developing indicators of the financial health of higher education institutions, most of them in the last eight years (see Brubaker, 1979, for a review of 40 major studies published since 1973). A series of such indicators, if validated as measures of a college's healthiness or unhealthiness, would be of great utility to federal and state policymakers and to college administrators. The indicators could be used by the federal or state governments for performing educational policy analyses (e.g., determining which groups of institutions might need special support and of what kind), by individual colleges to compare themselves to similar colleges, by educational researchers investigating anything from faculty salaries to changing enrollment compositions to financial actions taken by colleges in debt and with operating losses.

Unfortunately, past studies have often been limited or flawed. Many studies have been based on too few institutions or have combined public and private colleges in the analyses. Other studies have relied solely on expert judgment of financial health to validate the developed indicators, and comparisons of values for indicators across independent samples of institutions (i.e., cross validations) rarely appear in the literature. Moreover, few of these studies have used data for more than a single year, making it impossible to study the relationships among indicator values over time. Increasing communication among researchers and policymakers in this newly developing study area holds the promise of strengthening research efforts in the field, however. The annual working conference on new developments in measuring financial conditions of colleges and universities [first held in 1977 and sponsored jointly by the Economics and Finance Unit of the American Council on Education (ACE), the National Association of College and University Business Officers (NACUBO), and NCES--see American Council on Education, 1977, 1978, 1979] is a particularly important example of a forum that allows salient measurement and policy-related issues to be discussed.

A task undertaken by the Statistical Analysis Group in Education (SAGE) grew out of this dialogue and the increasing awareness of the need for improved and more comprehensive measures of the condition of higher education. Specifically, the objectives of this task were to develop and validate financial and nonfinancial indicators of the viability of colleges and universities in the country and to measure institutional viability for types of colleges related to federal policy goals for higher education. (The particular operational definition of "distress" used in these analyses is explained in the later section on validating the indicators, and "viability" is used here to mean not being in distress and instead having high levels of essential resources--financial and nonfinancial.) This report describes the procedures followed in accomplishing these objectives.

Creating the Longitudinal File

Work related to this task actually began in June 1978 when AIR staff working on a previous SAGE task developed several materials for the study of institutional financial health. First, a literature review and synthesis of research was prepared that explored (1) the variety of purposes for developing financial indicators and how the purpose influences what kinds of indicators are developed, (2) evaluations of the quality and currency of the available data sources on the financial condition of colleges and universities, (3) methodologies for financial indicator selection, and (4) financial indicator validation techniques (Financial Health Indicators for Institutions of Higher Learning: A Literature Review and Synthesis, Brubaker, 1979, SAGE Technical Report No. 13). Second, a self-assessment workbook was developed that was intended to assist trustees, presidents, and business officers in small independent colleges to evaluate their institution's financial condition (Self-Assessment of Financial Condition, Dickmeyer & Hughes, 1979a, SAGE Technical Report No. 8). Third, a concept paper was written to organize and interrelate the knowledge that had been accumulated concerning indicators of financial condition (Concepts Related to Indicators of College and University Financial Health, Dickmeyer, 1980, SAGE Technical Report No. 12). Although the title refers to financial health, the conceptual framework and the indicators reviewed included both

financial and nonfinancial conditions, making them entirely compatible with the broader concept of institutional viability used here. The paper (1) discussed uses for such indicators, (2) presented the concepts of efficiency and educational market segment and concepts related to market analysis as performed by profit-making organizations, (3) described flows in institutional resources, both financial and nonfinancial (e.g., students, faculty, physical plant), and (4) recommended certain indicators of financial health. The discussion differentiated between indicators that are related to some condition of concern by definition, predict the condition, are correlated with the condition, or only approximate the condition, and each recommended indicator was compared to similar indicators that have been proposed or constructed in the past.

The fourth and most important product of the previous SAGE work for the current effort was completed in May 1980, when the first version of a longitudinal file of financial, faculty, enrollment, and institutional characteristics data covering almost all of the colleges and universities in the country was developed. The original intent was to prepare a longitudinal data set containing only selected financial data extracted from the 1975 through 1978* Higher Education General Information Surveys (HEGIS), plus certain criterion measures with which to validate the financial health indicators that would be developed. The scope of the data set expanded, however, to include all of the statistics in the HEGIS financial files and variables from many other data sources as well. The principal reason for this expansion was that the nonfinancial characteristics of a college (e.g., information about the faculty and students) can serve as a context in which to interpret the college's financial condition, and changes in the nonfinancial conditions often presage or substitute for changes in the financial condition. Therefore, several persons at NCES, AIR, and the American Council on Education (ACE) were asked to recommend lists of variables that they thought would be useful to researchers using the file, and most of those variables suggested were added to the file. For example, ACE had recently researched, documented, and constructed a longitudinal file of enrollment

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* We have adopted the convention frequently used with fiscal or school years of referring to a year by the calendar year in which it terminated. Thus, data collected during the 1977-78 school year are labeled as 1978 data, even if they were collected in the fall of 1977.

statistics for higher education institutions (and in the process had performed one of the more difficult parts of our task--determining which schools had merged in recent years and combining their data for previous years to produce a single record). Rather than construct our longitudinal file from scratch, we used the ACE enrollment file as a base on which to build the rest of the file, since it contained exactly one record for each college and university currently assigned a distinct Federal Interagency Committee on Education (FICE) identification code. As a result, the enrollment data on the ACE file became part of our longitudinal "financial" file. A second reason for expanding the file was that it could always be accurately argued that it would be less expensive to include additional variables related to institutional viability during initial construction of the composite file than to add them later. In this manner, the file grew during the months of its design and construction to over 1,000 variables and 20 million bytes.

Table 1 describes the 21 source files that were merged to produce the longitudinal file. Most of the files consist of the responses to one of the HEGIS surveys in a particular year or were derived from HEGIS files, some of the files come from sources other than HEGIS, and the remaining source files were constructed specifically for this project.

From the ACE Comments File that accompanied their Longitudinal Enrollment File, we were able to construct a file summarizing all the splits and mergers of higher educational institutions (as reflected in their assigned FICE codes) over the four-year period covered by our longitudinal file. This record of mergers was essential to our construction of the longitudinal file, since we had to add together the data for the component colleges in years prior to their merger (except for the enrollment data, which had already been added together for merged schools by ACE).

Not all of the institutions on the ACE Longitudinal Enrollment File (i.e., colleges or campuses with distinct FICE codes in 1979 excluding administrative offices) have been included in our longitudinal file. Colleges that closed in 1975 or earlier or opened in 1979 were deleted from the file since we would have no data for them for the years 1975 through

Table 1

Data Sources Merged to Form the Longitudinal File

Data Source	Institutional Source	Year	Description of Variables Used
HEGIS Financial Survey X	NCES	1975	All the financial statistics
HEGIS Financial Survey XI	NCES	1976	
HEGIS Financial Survey XII	NCES	1977	
HEGIS Financial Survey XIII	NCES	1978	All the financial statistics plus OE region, OBE region, and city size
HEGIS Faculty Survey IX	NCES	1975	Number of full-time faculty members and total salary outlay by sex and length of annual contract
HEGIS Faculty Survey X	NCES	1976	
HEGIS Faculty Survey XI	NCES	1977	
HEGIS Faculty Survey XII	NCES	1978	
HEGIS Institutional Characteristics Survey IX	NCES	1975	Room charges, board charges, and tuition separately by undergraduate vs. graduate and in-state vs. out-of-state students
HEGIS Institutional Characteristics Survey X	NCES	1976	
HEGIS Institutional Characteristics Survey XI	NCES	1977	
HEGIS Institutional Characteristics Survey XII	NCES	1978	
HEGIS Institutional Characteristics Survey XIII	NCES	1979	County, congressional district, zip code, religious or other affiliation, year founded, predominant race, admission requirements, and whether a Land Grant institution
Longitudinal Enrollment File	ACE	1971-1978	Name, FICE code, whether traditionally or predominantly black institution, percent black and white enrollment, state, public or private control, level of institution, sex, Carnegie code of institutional type, and statistics on undergraduate, unclassified, graduate, and total enrollment by sex and part-time vs. full-time (only data for 1975-1978 were used)
HEGIS Fall Enrollment Survey XI	NCES	1976-77	Undergraduate, unclassified, first professional, and graduate students by part-time vs. full-time by sex by race and alien status
National Center for Higher Education Management Systems (NCHEMS) File	NCHEMS	1978	Institutional classification codes based on earned degrees in 1976-1978
Department of Health, Education, and Welfare (HEW) Default File	AIR	1975-1979	Institutions in default or in moratorium on an HEW loan
Department of Housing and Urban Development (HUD) Default File	NCES	1980	Institutions in default or in moratorium on an HUD loan
Title III File	ACE	1971-1979	1978 Title III participant, total Basic Educational Opportunity Grant (BEOG) funds in 1978, number of BEOG awards in 1978

1978. Also, colleges judged to be not qualified for inclusion in the HEGIS universe of higher education institutions or otherwise dropped from the HEGIS surveys between 1975 and 1978 were deleted from the file. A total of 3,125 institutions were retained on our file.

The completed longitudinal file of financial, faculty, enrollment, and institutional characteristics data for colleges and universities is much easier for researchers to use than the original data sources. This file is preferable because (1) statistics from many separate files have been aggregated into a single record for each institution, (2) the cumbersome design of the HEGIS files (with 100 or more records per school, each record containing only one or a few new variables!) has been eliminated, and (3) statistics have been added together for institutions that merged, resulting in an uninterrupted series of comparable data all located in a single record. The file is documented in Gilmartin (1981), and a copy of the data in the form of a public-use SAS file is available from NCES.

Reliability and Validity of HEGIS Data

The use of a file based so extensively on HEGIS raises questions about the reliability, validity, and utility of HEGIS data. Consensus has been growing that HEGIS is the best and most comprehensive source of statistics on the condition of higher education institutions. This is especially true after the HEGIS financial reporting forms were modified in 1975 to bring them into correspondence with the revised financial standards of the American Institute of Certified Public Accountants and the National Association of College and University Business Officers. (This revision of the HEGIS survey forms caused much of the financial data to be not comparable to data from earlier years and is the reason our longitudinal file does not extend back to years earlier than 1975.) Patrick and Collier (1979) compared aggregate HEGIS finance data with data collected carefully by John Minter Associates from 125 private colleges. These authors concluded that the HEGIS data appeared to be reliable and valid, at least when aggregated, and were becoming increasingly accurate over the period from 1975 to 1978. However, their analyses did not assess the accuracy of HEGIS data for individual institutions.

Loyd Andrew (Andrew, Fortune, & McCluskey, 1980) has recently completed a series of interviews with higher education researchers and administrators (in which we participated) concerning the quality of HEGIS data, and he reported the following opinions shared by most of his respondents (pp. v-viii):

- Many colleges are concerned about the uses of HEGIS for comparison purposes. This conclusion certainly holds for comparison of unit costs, resource allocation, and funding. Generally, colleges do not believe the data can be used for institution-to-institution comparisons because of timeliness (or lack thereof), lack of appropriate detail, differences in organization and accounting practices, and inappropriate comparisons of unlike institutions.

- Accuracy has improved. Generally, the accuracy of all HEGIS surveys is deemed acceptable. The lone exception to this is in aspects of the financial survey. The financial survey file is probably used more than other files in making complex analyses of the condition of higher education. Moreover, there are many difficulties in reporting and interpreting financial data because of differences among institutions in government and accounting practices. Thus, reports of dissatisfaction with the relative accuracy of this HEGIS file were not unexpected. It seems that many of the problems with the file would be corrected by more extensive documentatation about the accounting practices and governance of certain institutions. [Note: Most of these issues concern comparability of accounting practices among institutions, not the accuracy of HEGIS reports of these statistics.]

- Most researchers think that HEGIS data can be used for making comparisons among sectors of higher education. In fact, many would argue that it is accurate enough, when handled appropriately, for making state-to-state and inter-institutional comparisons.

In May 1980, a study group of representatives from higher education institutions and organizations met in Washington, D.C., to discuss the utility of HEGIS finance data for institutional and higher education sector comparisons. (The six higher education sectors are defined as public vs. private control divided into the levels of universities, 4-year colleges, and 2-year colleges.) Areas of major concern discussed by the study group included ways of improving the comparability and consistency of HEGIS finance data and ways of highlighting problems relative to the use of HEGIS

finance data for research purposes. In a report of the study group's findings (Hyatt & Dickmeyer, 1980), the following caveats that apply to our use of HEGIS financial data were listed (pp. 14-15):

- Users of HEGIS finance data should be aware that the mix of institutions included in the HEGIS survey can vary from year to year and that prior-year HEGIS data tapes are not updated to incorporate corrections of the data file.

- In at least 13 states, tuition and fees are reappropriated by the legislature. If an institution uses its tuition and fees as an offset to state appropriations, these funds should be reported on the HEGIS form under tuition and fees and not under state appropriations. If this procedure is not followed, state appropriations may be overstated by the amount of the tuition and fees used to offset state appropriations. [Note: The current contractor processing HEGIS financial forms is attempting to catch, check, and correct these cases before the data are entered onto the HEGIS file.]

- Users of HEGIS finance data should be aware that institutions may receive state and federal funds for a variety of purposes that differ from institution to institution. This is true in the case of public service functions such as public health labs and indigent patient care. In some states the services are provided by state agencies, while in other states they are provided by higher education institutions. As a result, comparing total institutional expenditures without considering the diverse and varied functions of institutions can result in erroneous conclusions about the financial operations of institutions.

- In building institutional comparison groups, users of HEGIS data should be aware that, while in some states there are distinct enrollment and financial data associated with a comprehensive health institution, in other states the health professional programs are part of an overall institution's financial and enrollment data and are not separable. Due to the higher cost of health programs, their inclusion with other types of institutions may cause distortions in per-student revenues and expenditures.

- Users of HEGIS finance data should be aware that student aid payments made directly to students are not currently included in the HEGIS finance data base. In at least 24 states, some form of student aid is provided and the expenditures are not reflected in institutional HEGIS reports. As a result, the amount of student aid reported by institutions in these states may be understated. Student aid is becoming increasingly viewed as an alternative to increasing appropriations to institutions by states as well as by the federal government.

The amount of student aid provided to institutions is therefore an important factor in conducting interinstitutional and interstate comparisons of higher education finance. [Note: Although lack of information on student aid may be a shortcoming in the design of HEGIS, this does not reflect adversely on the accuracy of HEGIS financial data.]

- Users of HEGIS finance data should be aware that data are often imputed or estimated for institutions that do not respond to the HEGIS finance survey. [Note: Approximately 10% of the colleges do not respond in any particular year, but the nonrespondents tend to be small and account for less than 3% of total higher education expenditures. Also, imputed data values are always identified as such.]

Taking all of the conclusions and advice into consideration, we feel confident that we can rely on the general accuracy of the HEGIS data as we have refined them in developing the longitudinal file. (The refinement procedures are described in the next section.) Since the HEGIS source files were not designed and documented to be as easily used by researchers as the SAGE longitudinal file, however, considerably more care should be taken when working with those files.

REFINEMENT OF THE FILE

Since October 1980, much of our time has been spent checking data on the longitudinal file for internal consistency and exploring anomalous values. Because we have constructed a longitudinal file of HEGIS data that allows us to compare values for a college over time, we are able to detect inconsistencies introduced through inconsistent reporting by the institution, inconsistent coding of the survey responses, inadvertent keytape errors, or our own errors that would not be apparent within a single year. To facilitate comparison of indicators over time, current dollars were converted into constant dollars. Since the 1977-78 school year is the latest year on the longitudinal file, we have used that year as the base and have converted all other current dollars into 1977-78 constant dollars. All the institutional financial variables were converted to constant dollars using the Higher Education Price Index. Mean faculty salaries, however, were corrected for inflation by using the Consumer Price Index (adjusted to represent school years--July to June--rather than calendar years). The Consumer Price Index was used instead of the Higher Education Price Index to deflate faculty salaries, because the results would better represent the perspective of faculty members (i.e., whether salary increases kept pace with inflation). The Consumer Price Index was also used to deflate the official tuition, room, and board rates charged to students.

Apparent problems with data from HEGIS source files have come from three sources. First, HEGIS survey and coding procedures are sometimes unexpected and can change from year to year without notification and accompanied only by obscure documentation. For example, we learned belatedly that a value of zero for institutional control did not indicate missing data but instead was intended to signify joint private and public control. In 1975 and 1976, faculty salary data were in the form of mean salary per faculty member, while in later years they were in the form of total salary outlay for the faculty members. We therefore had to convert means into totals to make the variables comparable over time. Also, payments on plant debt and deductions from assets and fund balances were entered as positive numbers in the 1975 HEGIS financial file and as negative numbers in all years since.

Second, some HEGIS data values were incorrect and have had to be recoded or marked as missing. For example, NCES staff warned us about a college in Ohio that was incorrectly labeled as a traditionally black college, and staff at ACE discovered 18 incorrect values when investigating colleges' current fund balances. In most of these latter cases, a minus sign had been dropped so that a college's current fund balance appeared to go from a large negative value one year to an equally large positive value the next year and then back to negative again the third year with no appreciable additions to or deletions from the current fund over that period of time. We were advised by NCES staff that they do not change incorrect values on their back files, and therefore errors may persist even after they are discovered.

Third, data have occasionally been misread from HEGIS files. Reading HEGIS data files can often be a problem, because there are separate records for each line in a survey form, with different codes from year to year identifying the survey part and line, and different byte positions for the variables from year to year.

Merging Branch Campuses of College Systems

To discover anomalous data values, we ran programs that would print out the record of any college with unusually large (a factor of 2 or 3) increases or decreases in relatively stable variables from one year to the next (e.g., summary financial variables, total number of students, total number of faculty members). In some cases, we discovered that a variable was generally less stable than we had expected. For example, although number of full-time students does not usually change rapidly, total number of students can increase or decrease by large numbers in a year because reported part-time enrollment is often quite variable over time. Large increases or decreases in other variables often appeared to be legitimate in particular cases or were caused by the types of problems described above. However, other colleges appeared to have dramatic changes over time with no discernible causes.

Nathan Dickmeyer (ACE) pointed out that the data for many of these unexplained cases were unreliable because the campuses were part of a larger college system and data values were inconsistently distributed over the components of the system. When we checked, we found that this seemed to be true. The aggregate statistics for the system were stable from year to year, but the method of dividing the system's finances over its campuses varied from year to year, resulting in inconsistent data for some of those campuses. NCES tries to have each system specify how the aggregate data values should be distributed over the colleges and campuses comprising the system. Often the data are distributed as a function of FTE enrollment or current fund expenditures at each campus. If the system refuses to specify a method for distributing their finances, NCES will choose a method and will try to make the method comparable to the one used the preceding year. Nevertheless, we have found systems with financial statistics divided exactly equally among unequally sized campuses. In addition, revenues and expenditures associated with the operation of a system's central administration are often not distributed over the campuses other than the main campus, causing the financial statistics for the main campus and for the branch campuses to be not comparable to other main campuses and branch campuses. Variability and incomparability from these causes had to be eliminated before we could develop indicators of institutional viability.

Our solution was to merge the data for campuses in systems (easily said but moderately difficult to do). There were 141 college systems in HEGIS composed of 714 colleges, campuses, or other entities, each with a separate FICE code in 1979. (We ignored "systems" with only a single college in them.) The data for all the campuses in a system were merged under the FICE codes of the system's main campus. Many variables were merely added, other variables were recomputed (e.g., percentages), and the system value for other variables was the highest value among the campuses (e.g., being in default on a federal loan). Missing data were treated differently depending on the type of variable and the cause of the missing data (i.e., college not yet opened or closed versus college not included in a survey). The name of the main campus was changed to represent the system and always included the word "SYSTEM." When necessary, the institutional characteristics of the main campus were also recoded to more accurately portray the

characteristics of the system as a whole. The procedure of collapsing 714 campus records into 141 system records decreased the number of records on the file by 573, to 2,552, but virtually all colleges and universities in the country were still represented in one form or another.

Temporarily Deleting Unusual Colleges

Since we aimed to develop indicators of institutional viability that are valid for the types of colleges normally found in the six sectors of higher education (private vs. public by university vs. four-year college vs. two-year college), it was desirable to have the educational sectors as homogeneous as possible with respect to their missions, types of students, and sources of revenues. Consequently, atypical colleges were identified and were temporarily deleted from the file. (All of these colleges were returned to the file when institutional viability was explored for various kinds of colleges in the latter half of this task.) The numbers of schools deleted for various reasons are listed in Table 2. The union of these sets is less than the sum, because many schools were deleted for more than one reason (e.g., theological seminaries often have no undergraduates). The total number of schools deleted was 525, bringing the remaining number of records down to 2,027, but all colleges and universities in the country were again represented after the indicators had been developed and validated using the more ordinary types of schools.

Table 2

Unusual Types of Colleges Not Included
during the Development of Viability Indicators

Characteristic of College	Number of Colleges	Percent of Total Population
Theological seminary or bible college	268	10.5%
0-10 undergraduates	206	8.1%
Proprietary school	63	2.5%
Art or music school	53	2.1%
Inordinately high expenditures per FTE student[1]	51	2.0%
Medical school or center	26	1.0%
Other health professional school	24	0.9%
Law school	14	0.5%
Other specialized school[2]	29	1.1%
Nontraditional school	5	0.2%
Union of the ten types of colleges[3]	525	20.6%

[1] Total current fund expenditures per full-time equivalent student were more than three standard deviations above the mean for that educational sector in at least one year.

[2] This category includes graduate centers, maritime academies, and military institutions.

[3] The union is less than the sum of the ten types of colleges because many colleges are categorized into more than one group (e.g., a law school with no undergraduates).

DEVELOPMENT OF PROSPECTIVE INDICATORS

Most of the indicators of institutional viability analyzed and validated in this task were identified during the previous period of SAGE work. By October 1980, 38 indicators had been selected as being most likely to supply useful (and nonredundant) information about individual colleges and universities and to discriminate "healthy" institutions from those in distress. (The operational definition of "distress" that we used is described in the next section on the validation of indicators.) These indicators were selected in close coordination with the Financial Conditions Project (funded by the U.S. Office of Education) conducted by the American Council on Education (ACE). Nathan Dickmeyer, director of that project and consultant to both the previous and the current SAGE tasks on higher education indicator development, reviewed past indicator development research, developed conceptual frameworks suggesting which dimensions of college operation are most vital for institutional viability, and included SAGE staff in meetings with a panel of college presidents, financial officers, and researchers on college conditions. The indicators initially selected had theoretical support in the financial conditions literature (see two of the previous SAGE reviews on this topic, Brubaker, 1979, and Dickmeyer, 1980) and were being used in major research studies to describe the statuses of colleges and universities. Twenty-three additional indicators were added in recent months following further searches through the literature for indicators that were hypothesized or found to be related to institutional viability and that were dissimilar from the indicators already selected. Five recent reports were especially useful for suggesting additional indicators or revisions of the indicators in the original set: California Postsecondary Education Commission (1978), Coldren, Mertins, Knepper, and Brandt (1979), Dickmeyer and Hughes (1979b), Minter and Bowen (1980), and Cable (1981).

The resulting 61 indicators are listed in Table 3 and were included in the analyses to be described in the reminder of this report. Many of these indicators measure the stocks and flows of nonfinancial resources such as students, faculty, and plant assets, even though their computation may be based on data expressed in dollars (e.g., faculty salaries). These 61

Table 3

Selected Indicators Thought to Be Related
to Institutional Viability

Indicators of Reliance on Various Sources of Revenues
1. Tuition and fees revenues as a percent of total current fund revenues
2. Endowment income (restricted and unrestricted) as a percent of total current fund revenues
3. Federal appropriations as a percent of total current fund revenues
4. State appropriations as a percent of total current fund revenues
5. Local appropriations as a percent of total current fund revenues
6. Government appropriations (federal, state, and local) as a percent of total current fund revenues
7. Government grants and contracts (restricted and unrestricted; federal, state, and local) as a percent of total current fund revenues
8. Auxiliary enterprise revenues as a percent of total current fund revenues
9. Unrestricted private gifts, grants, and contracts as a percent of total current fund revenues
10. Restricted current fund revenues (from all sources) as a percent of total current fund revenues
Indicators of Revenues per Student or Faculty Member
11. Tuition and fees revenues per full-time equivalent (FTE) student*
12. Net tuition and fees revenues (i.e., tuition revenues minus scholarships) per FTE student
13. Government appropriations (federal, state, and local) per FTE student
14. Unrestricted current fund revenues per FTE student

* Part-time students were counted as one-third of a full-time enrollment.

Table 3 (continued)

Indicators of Revenues per Student or Faculty Member (cont.)
15. Restricted current fund revenues per full-time faculty member
16. Total current fund revenues per full-time faculty member

Indicators of Net Revenues (Revenues Minus Expenditures)
17. Net educational and general revenue as a percent of total educational and general revenue
18. Net auxiliary revenue as a percent of total auxiliary revenue
19. Total net revenue as a percent of total revenue

Indicators of the Distribution of Educational and General Expenditures
20. Instructional expenditures as a percent of total educational and general expenditures
21. Library expenditures as a percent of total educational and general expenditures

Indicators of the Distribution of Current Fund Expenditures
22. Instructional expenditures as a percent of total current fund expenditures
23. Library expenditures as a percent of total current fund expenditures
24. Unrestricted scholarships as a percent of total current fund expenditures
25. Scholarships (restricted and unrestricted) as a percent of total current fund expenditures

Table 3 (continued)

Indicators of the Distribution of Current Fund Expenditures (cont.)
26. Student services expenditures as a percent of total current fund expenditures
27. Research expenditures as a percent of total current fund expenditures
28. Institutional support expenditures as a percent of total current fund expenditures
29. Expenditures for operation and maintenance of plant as a percent of total current fund expenditures
30. Public service expenditures as a percent of total current fund expenditures
31. Interest payments on plant indebtedness as a percent of total current fund expenditures

Indicators of Expenditures per Student or Faculty Member
32. Instructional expenditures per FTE student
33. Unrestricted scholarships per FTE student
34. Educational and general expenditures per FTE student
35. Total current fund expenditures per FTE student
36. Research expdenditures per full-time faculty member

Ratios of Scholarship Expenditures to Tuition Revenues
37. Ratio of unrestricted scholarships to tuition and fees revenues
38. Ratio of scholarships (restricted and unrestricted) to tuition and fees revenues

Table 3 (continued)

Indicators Concerning Fund Balances

39. Ratio of unrestricted current fund balance at the end of the fiscal year to current fund expenditures (not available for 1975 and earlier years)

40. Ratio of current fund balance at the end of the fiscal year to current fund expenditures

41. Ratio of current fund balance plus 20 percent of endowment fund balance at the end of the fiscal year to educational and general expenditures

42. Ratio of the net increase or decrease in current funds for the fiscal year to current fund revenues

43. Ratio of market value of endowment at the end of the fiscal year to current fund expenditures

44. Market value of endowment at the end of the fiscal year per FTE student

45. Net increase or decrease in all fund balances for the fiscal year per FTE student

Indicators of Plant Assets and Indebtedness

46. Ratio of the book value of plant assets at the end of the fiscal year to current fund expenditures

47. Ratio of plant indebtedness to the book value of plant assets at the end of the fiscal year

48. Ratio of plant indebtedness at the end of the fiscal year to current fund revenues

49. Payments made on the principal of plant indebtedness as a percent of principal owed at the beginning of the fiscal year

Table 3 (continued)

Indicators Concerning Enrollment and Faculty Members
50. Full-time equivalent (FTE) enrollment
51. Part-time enrollment (head count) as a percent of total enrollment (head count)
52. FTE unclassified students as a percent of total FTE students
53. Number of full-time faculty (head count)
54. FTE students per full-time faculty member
55. Mean salary of full-time faculty members (standardized to a nine-month academic year)

Indicators of Student Tuition and Fees
56. Public college tuition for in-state undergraduates
57. Public college tuition for out-of-state undergraduates
58. Private college tuition for undergraduates
59. Private college tuition for graduate students
60. Room charges for students
61. Board charges for students

indicators represent the major current theories and hunches concerning which aspects of college operation are indicative of financial health and, beyond that, general viability.

Calculation of Static and Change Indicators

Each indicator was computed in two forms. The static form was based on data from a single year and was calculated for 1975, 1976, 1977, and 1978 (with the exception of Indicator 39, which could not be computed for 1975 because restricted and unrestricted current fund balances were not differentiated before 1976). The change form of each indicator was based on the difference in indicator values between pairs of years (i.e., 1975-1976, 1975-1977, 1975-1978, 1976-1977, 1976-1978, and 1977-1978).

There are various ways in which one could measure change in an indicator's value over time for a college. However, because of the potential for confusion if percent change were computed for static indicators that are already percentages, almost all of the change indicators are straightforward differences in values. For example, the change form of Indicator 1 is simply the percent of current fund revenues from tuition and fees in a certain year minus the percent of current fund revenues from tuition and fees in an earlier year. Similarly, the change form of Indicator 55 is the mean full-time faculty salary in a certain year minus the mean full-time faculty salary in an earlier year (both in constant 1978 dollars). Thus, for almost all indicators, the change form of the indicator has the same units as the static form--percents or constant dollars or whatever. The only exceptions are the two indicators that are not ratios in their static forms: Indicator 50 (FTE enrollment) and Indicator 53 (number of full-time faculty). Since these two indicators by definition have large values for large colleges and small values for small colleges (which is not necessarily true for any of the other indicators), their change forms were computed as percent change from a base year to a later year.

Flags of Various Conditions

In addition to these 61 indicators of institutional status based on measures of continuous variables, a number of other discrete indicators, or "flags," were added to each institutional record to identify colleges in particular conditions or to identify colleges that had changed their mission from one year to the next. These flags include (1) in default or in moratorium on a loan from the Department of Health, Education, and Welfare (HEW) (1975-1979), (2) in default or in moratorium on a loan from the Department of Housing and Urban Development (HUD) (1980), (3) private college becoming public (1976-1978), (4) 2-year college becoming a 4-year college (1976-1978), (5) 4-year college becoming a 2-year college (1976-1978), (6) single-sex college changing to coed (1976-1978), (7) two or more colleges merging together (1975-1979), and (8) closure (1975-1979). From among these conditions and changes in status, we consider closure and default on a federal loan to be indicators of probable distress. Although some of the other changes in status have been suggested as responses to stressful situations (e.g., single-sex colleges becoming coed, private colleges becoming public, colleges merging), we consider the relationship of these changes to distress to still be an open question.

VALIDATION OF INDICATORS

Validation techniques that have been used with indicators of institutional status were reviewed in an earlier SAGE report (Brubaker, 1979, SAGE Technical Report No. 13, pp. 105-115). Attempted validations, if any, of previously developed indicators of financial distress have often been flawed for one or more of the following reasons.

- Analyzing data from too small a sample of colleges to generalize reliably to the entire population
- Using such a small sample that there were fewer cases than variables in the discriminant analysis (!), which guarantees that all the variance would be "explained" and that the resulting discriminant function would be unreliable for any other set of colleges
- Combining public and private colleges during indicator development and validation (let alone not using a finer categorization within the public and private sectors)
- Using only subjective judgments of financial status without objective criteria for health or distress
- Failing to cross-validate results from a small sample of institutions

It was our hope to improve on this state of affairs by not repeating some of the mistakes of previous research. We intended to use objective criteria for distress (and to include conditions other than just financial distress), perform all analyses separately by educational sector, include most colleges and universities in the country rather than a sample, and cross-validate results by splitting each sector in half and applying the indicators and discriminant functions developed in each half to the other half. As will be made clear in this section of the report, we were only partially successful. The following summarizes what we were and were not able to accomplish.

- When we used only those objective criteria that are very probably signs of distress (i.e., closure and default on a federal loan), we identified few cases of distress. Even when other objective criteria were included (i.e., extreme declines in enrollment, faculty salaries, current fund balance, and current fund revenues, still few cases of distress

were identified--ranging from no cases for public or private universities to 10% of private 2-year colleges in 1978. Having few cases identified as clearly being in distress limited all later analyses.

- Analyses were performed separately for the six educational sectors, but since no universities were identified as being in distress, indicators of institutional viability could not be developed specifically for public and private universities. Also, very few public 4-year colleges were identified as being in distress, and therefore indicators of institutional viability were not developed for this sector either.

- The analyses did include most colleges and universities in the country. The only colleges excluded were different enough in mission and source of finances to warrant their separation from more normal institutions.

- Because we identified few cases of extreme distress, especially when considered separately by sector, we were unable to split the population and cross-validate the discriminant analyses. Instead, we validated the discriminant functions retrospectively by applying them to data for past years. Specifically, the functions developed from 1978 data were used to "predict" distress in 1977 and 1976.

Selection of Colleges in Distress

Our operational definition of "distress" went through two stages of refinement. At first, colleges in distress in a particular year were those that were in default or moratorium on a federal loan or closed that year. However, not many of the colleges retained in the analyses defaulted on a loan (30 in 1976, 33 in 1977, and 94 in 1978*), and even fewer closed (5 in 1976, 4 in 1977, and 10 in 1978). When analyzed separately by sector, these numbers are even smaller, and public colleges rarely default on a loan or close.

For the results of the remaining analyses to be reliable, we needed to identify more colleges in distress in each sector. To increase the number

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* The number of defaults in 1976 and 1977 refer only to defaults on HEW loans. For 1978 (the last year on the longitudinal file), we took the union of defaults on HEW loans in 1978 and 1979 and defaults on HUD loans in 1980. This procedure accounts for most of the apparent increase in defaults between 1977 and 1978.

of institutions identified as being in distress, four additional indicators of distress were used: two to be applied to all colleges, one specifically for private colleges, and one specifically for public colleges.

(1) Enrollment Distress--approximately the 10% of colleges with the largest proportional decrease in FTE enrollments (Indicator 50) since 1975 were considered to be in enrollment distress. For 1976, these were extreme decreases over one year; for 1977, over two years; and for 1978, over three years. Large enrollment declines cause institutional stress from reduced revenues (either tuition revenues or state appropriations based on enrollment), inefficient use of facilities, and the need to reduce the number of faculty members.

(2) Salary Distress--approximately the 10% of colleges with the largest proportional decline in mean salary for full-time faculty (Indicator 55 recalculated as percent change in constant dollars) were considered to be in salary distress. This measure was considered to indicate distress because, in the long run, salary decreases can only result in lower quality faculty. In essence, these colleges are attempting to balance their budgets by "spending" their faculty resources.

(3a) Current Fund Balance Distress--approximately the 10% of private colleges with the largest decline in the ratio of current fund balance to current fund expenditures (Indicator 40) were considered to be candidates for current fund balance distress. Of these, the one-third with positive current fund balances were excluded from the distress category. A negative and rapidly decreasing current fund balance shows that a college is unable to "make ends meet" and is operating in the red.

(3b) Current Fund Revenue Distress--approximately the 10% of public colleges with the largest proportional decline in current fund revenues were considered to be candidates for current fund revenue distress. Of these, the colleges that did not experience a decline in current fund revenues per FTE student were excluded from the distress category. Rapid declines in current fund revenues (especially when not matched by proportional declines in enrollment) cause institutional stress because educational activities will have to be performed with fewer resources.

Because these four indicators are somewhat less directly related to distress than are default or closure (i.e., there is a slightly higher probability that a college would have a legitimate explanation for the extreme decline), we applied more conservative standards before labeling a college as being in distress when using these indicators. Colleges that fell into only one of these categories were considered to be equivocal; only colleges that exhibited at least two of these conditions in the same year were considered to be in distress that year, along with colleges in default on loans or that had closed.

Table 4 summarizes the results of chi-square analyses between all possible pairs of distress conditions in 1978, separately by type of control (public vs. private). Among private colleges, these various conditions of distress are shown to be likely to occur together. In contrast, no significant relations between distress conditions were found for public colleges. The possibility that the concept of "distress" as we have defined it applies only to private colleges should therefore be kept in mind while reading the discussion of the analyses that follow.

We next examined the values of all the variables we had for colleges identified as being in distress according to the criteria described above. We found one college that closed while it appeared to be quite viable (i.e., was experiencing increasing enrollments and current fund balance, had large positive values in all fund balances, and was paying its faculty well) and several colleges that were in default on loans while appearing to be financially healthy. (In some cases, not paying off a loan even when able to do so may be a smart financial decision, especially if the interest rates are kept artificially low by the federal government.) Consequently, we again refined the definition of distress.

(1) Any college that closed and was in default at the time was labeled as being in distress that year.

(2) Additionally, any college that closed or was in default and also experienced one of the other distress conditions in the same year or the previous year was labeled as being in distress.

Table 4

Summary of Chi-Square Tests between Conditions of Distress in 1978, Separately by Type of Control[a]

Type of Distress	Closed	Default on Federal Loan	Enrollment Declines	Salary Declines	Current Fund Balance Declines	Current Fund Revenue Declines
Closed	---	c	c	c	b	c
Defaulted	n.s.	---	n.s.	n.s.	b	n.s.
Enrollment	*	**	---	n.s.	b	n.s.
Salary	**	***	n.s.	---	b	n.s.
Current Fund Balance	***	*	***	**	---	b
Current Fund Revenue	b	b	b	b	b	---

n.s.: not significant
*: probability $\leq$ .01
**: probability $\leq$ .001
***: probability $\leq$ .0001

[a] Results for private colleges are below the diagonal and those for public colleges are above the diagonal.

[b] Not computed for colleges with this type of control.

[c] No public college closed in 1978, and therefore these chi-square tests are not computable.

(3) Additionally, any college that did not close or default but that experienced at least two of the other distress conditions in the same year was labeled as being in distress in that year.

Table 5 displays the number of colleges experiencing each of the distress conditions considered individually and the total number labeled as being in distress according to the above rules, separately by year. In spite of having included a measure of distress designed specifically for public colleges (current fund revenues distress), we identified relatively few of them in any year as being in distress. Public colleges appear to experience less institutional stress, presumably because most of their revenue comes from government appropriations and they can therefore attract students by offering very low tuition rates. Table 6 displays the number of colleges experiencing various distress conditions and labeled as being in distress in 1978, separately by educational sector. No university was identified as being in distress. Public 4-year colleges and public 2-year colleges were about equally likely to be in distress (1.4% and 1.5%), while private 4-year colleges were somewhat less likely to be showing signs of distress than were private 2-year colleges (8.3% vs. 9.7%). Of the 101 institutions identified as being in distress in 1978, 98 were either private 2-year colleges, private 4-year colleges, or public 2-year colleges.

The question has frequently been raised whether colleges in financial trouble in various years are the same colleges for the most part or whether there is a great deal of movement into and out of difficulties over a period of a few years. Figure 1 addresses this question for various conditions of distress, first for each condition separately and then for being labeled as being in distress according to the criteria listed above. The coefficients associated with the arrows are the probabilities of a college, either in distress or not, being either in distress or not the following year. The coefficients were computed as the mean of the transition probabilities between two pairs of years: from 1976 to 1977 and from 1977 to 1978. (Closing is, of course, not included in Figure 1, since a college that closes one year does not exist the next year.) Defaulting on a federal loan is distinctive in that a college that is in default one year is very likely to be a default the next year (.95 probability). In contrast, about

Table 5

Colleges Experiencing Various Distress Conditions and Labeled as Being in Distress, by Year and by Public vs. Private

	1976						1977						1978					
	Public		Private		Total		Public		Private		Total		Public		Private		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Closure	1	(0.1)	4	(0.4)	5	(0.3)	0		4	(0.4)	4	(0.2)	0		10	(0.9)	10	(0.5)
Default on Federal Loan[a]	0		30	(2.8)	30	(1.5)	0		33	(3.0)	33	(1.7)	11	(1.2)	83	(7.5)	94	(4.7)
Extreme Decline in Enrollments[b]	39	(4.3)	157	(14.4)	196	(9.8)	64	(7.1)	132	(12.1)	196	(9.8)	60	(6.6)	136	(12.3)	196	(9.7)
Extreme Decline in Mean Faculty Salary[b]	71	(7.9)	109	(10.0)	180	(9.0)	49	(5.4)	128	(11.7)	177	(8.9)	39	(4.3)	136	(12.3)	175	(8.7)
Extreme Decline in Current Fund Balance per Current Fund Expenditures[b] and Negative Balance[c]	N/A		67	(6.2)	N/A		N/A		64	(5.9)	N/A		N/A		70	(6.4)	N/A	
Extreme Decline in Current Fund Revenues and Decline per FTE Student[b,d]	82	(9.1)	N/A		N/A		79	(8.7)	N/A		N/A		55	(6.0)	N/A		N/A	
Labeled as Being in Distress[d]	22	(2.4)	56	(5.1)	78	(3.9)	21	(2.3)	63	(5.8)	84	(4.2)	12	(1.3)	89	(8.1)	101	(5.0)

[a] The number of defaults in 1976 and 1977 refer only to defaults on HEW loans. For 1978, the number of defaults is the union of defaults on HEW loans in 1978 and 1979 and on HUD loans in 1980. This procedure accounts for most of the apparent increase in defaults and being labeled as being in distress between 1977 and 1978.

[b] Decline since 1975.

[c] For private colleges only.

[d] For public colleges only.

Table 6

Colleges Identified as Being in Distress,
by Type of Distress and Educational Sector: 1978

	Public						Private						Total	
	University		4-Year College		2-Year College		University		4-year College		2-Year College			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Closed and Another Form of Distress	0		0		0		0		5	(0.6)	3	(1.7)	8	(0.4)
Defaulted and Another Form of Distress	0		2	(0.9)	2	(0.3)	0		44	(5.1)	4	(2.3)	52	(2.6)
Not Closed or Defaulted; At Least Two Other Forms of Distress	0		1	(0.5)	7	(1.2)	0		23	(2.7)	10	(5.7)	41	(2.0)
Total: In Distress	0		3	(1.4)	9	(1.5)	0		72	(8.3)	17	(9.7)	101	(5.0)
Not Known to Be in Distress	86	(100)	213	(98.6)	601	(98.5)	66	(100)	792	(91.7)	158	(90.3)	1916	(95.0)

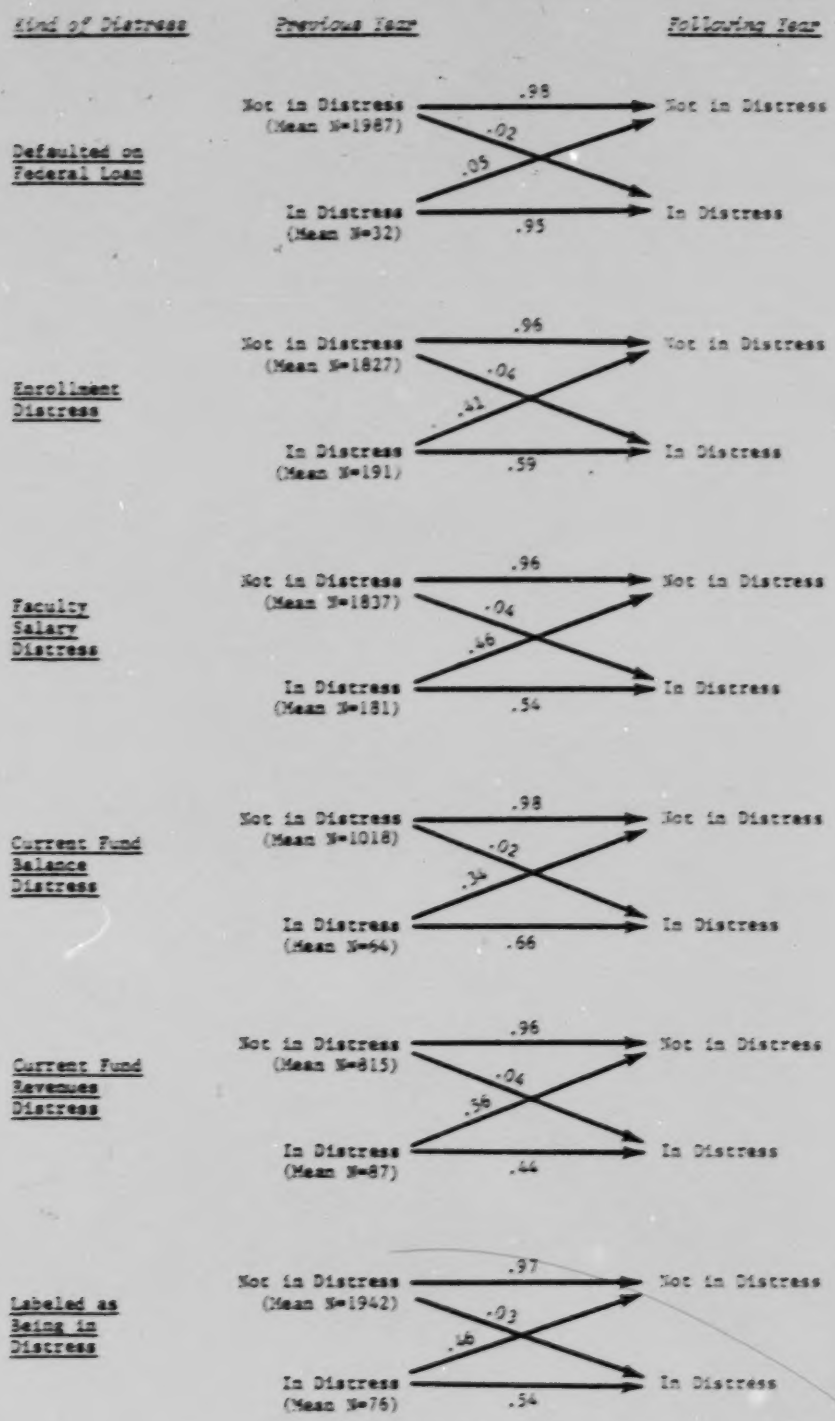

Figure 1. Transition probabilities between being and not being in various kinds of distress in successive years.

half of the colleges with enrollment distress, faculty salary distress, or current fund revenues distress do not appear to be in that kind of distress the following year, and one-third of the colleges with current fund balance distress have recovered by the next year. When these various forms of distress are combined into a single categorization of being in distress, 46% of the colleges in distress one year are not so labeled the next year, and 3% of the colleges not identified as being in distress are in distress the next year. Thus, there is a great deal of movement in and out of distress (as we have defined it): of the 170 colleges labeled as being in distress for at least one year out of 1976, 1977, and 1978, only 25 were in distress all three years.

Validation of Individual Indicators

The final step in the validation of the proposed indicators was to compare mean values on the indicators for colleges identified as being in distress with the values of the remaining colleges that are not known to be in distress, separately by educational sector and by year. Only three of the six sectors were included, since (not surprisingly) no cases of distress were identified for public or private universities and very few cases of distress were identified for public 4-year colleges. Each indicator was validated in several forms: as static indicators computed for the year of distress and for the previous year and as change indicators covering various numbers of years prior to the year of distress and prior to the previous year (e.g., 1977-1978, 1976-1978, 1975-1978, 1976-1977, and 1975-1977, when the year of distress was 1978). Static indicators for the previous year and change indicators covering one or more years prior to the previous year were included because distress might be more closely related to certain conditions during the previous year than to those conditions in the current year, and it would be useful to be able to predict distress. After first testing for homogeneity of variance in the two populations, the appropriate form of the t-test for difference in means (i.e., assuming or not assuming homogeneity of variance) was performed for each comparison. The results for colleges identified as being in distress in 1978 are attached as an appendix. The results for colleges in distress in 1976 and

1977 were similar, although change indicators for those years could not be calculated over as many years (i.e., we do not have data for two or more years prior to 1976 or three years prior to 1977).

The results of these analyses for 1978 are summarized in Table 7. Within each sector, the indicators validated as being related to distress (by the procedures described in the previous paragraph) have been ordered from those having the strongest relation to distress to those having the weakest relation to distress. Since extreme values on a few indicators were used to identify colleges in distress (e.g., extreme decline in mean salary of full-time faculty), their relation to distress was assumed and cannot be adequately validated by these analyses.

Based on the more detailed results contained in the appendix, it was generally the case that (1) static indicators were more closely related to distress than the change forms of these indicators, (2) indicators for the current year (1978) were more closely related to distress than indicators for the previous year (1977), and (3) change indicators became more closely related to distress as they spanned a greater number of years. There were exceptions, of course. Many indicators were related to distress only for private colleges (e.g., indicators concerning endowment), a few only for public colleges (e.g., the static value of room changes). For many indicators, their static values were significant, while the amount of change over time was consistently not related to distress (e.g., interest payments on plant debt); for a few indicators, the opposite was true (e.g., some of the indicators concerning scholarships). A number of indicators that had been suggested in the literature as being revealing about an institution's status we found to be unrelated to distress in all three sectors.

Very little prior research in this field has used institutional data for two or more years to compute indicators of change over time. We have found that, in some cases, the change form of an indicator is more closely related to institutional viability than the static form; and, in a number of other cases, the change form adds independent information about a college's status, even though the static form is more closely related to viability. These results should encourage researchers in the future to work with longitudinal data files when possible.

Table 7

Summary of Results from Validation of Indicators, Separately by Sector[a]

Indicator	Form[b]	In Contrast to Other Colleges, Colleges in Distress Tend to...
Private 4-Year Colleges		
Mean salary of full-time faculty[c]	change	decrease faculty salaries more
Full-time equivalent (FTE) students	static	have fewer students
Full-time faculty members	static	have fewer faculty members
Mean salary of full-time faculty	static	pay their faculty less
Current fund balance + 20% endowment balance/educational and general (E&G) expenditures	static	have a negative balance
Current fund balance/current fund expenditures (CFE)[c]	static	have a negative balance
Unrestricted current fund balance/CFE	static	have a negative balance
FTE students[c]	change	have decreasing enrollments
Total net revenue/total revenue	static	have negative net revenues
FTE students/full-time faculty	static	have fewer students per faculty member
Endowment market value/CFE	static	have less endowment per CFE
Debt on plant/current fund revenues (CFR)	static	have more debt per CFR
Plant debt/plant assets	static	have more debt per assets
Payments on plant debt/principal owed	static	pay off less of debt principal
Net change in all funds/FTE student	static	have decreases in fund balances
Endowment income/CFR	static	have a smaller proportion of income from endowment
Endowment market value/FTE student	static	have less endowment per student
Net change in current funds/CFR	static	have negative net change in current funds
Tuition rate for undergraduates	change	decrease tuition for undergraduates
Unrestricted scholarships/FTE student	change	decrease scholarships per student
Instructional expenditures/E&G expenditures	static	have a smaller proportion of expenditures for instruction
Instructional expenditures/CFE	static	have a smaller proportion of expenditures for instruction
Current fund balance/CFE[c]	change	have a decreasing balance per CFE

[a] Indicators are ordered from those having the strongest relation to distress to those having the weakest relation to distress.

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

[c] Extreme values on this variable were used to identify distress. Consequently, the relation of this indicator to distress was assumed and cannot be validated by these analyses.

Table 7 (continued)

Indicator	Form[b]	In Contrast to Other Colleges, Colleges in Distress Tend to...
Current fund balance + 20% endowment balance/E&G expenditures	change	have a decreasing balance per E&G
E&G expenditures/FTE student	static	spend more per student
Interest payments on debt/CFE	static	spend a higher proportion on interest payments
Unrestricted scholarships/CFE	change	have decreased the proportion of expenditures for scholarships
CFE/FTE student	static	spend more per student
Library expenditures/E&G expenditures	static	spend a smaller proportion for libraries
CFR/full-time faculty	static	have less revenue per faculty member
Room charges	change	decrease room charges
(All other variables were found to be not significant at the .01 level.)		
Private 2-Year Colleges		
Current fund balance/CFE[c]	static	have a negative balance
Unrestricted current fund balance/CFE	static	have a negative balance
Current fund balance + 20% endowment balance/E&G expenditures	static	have a negative balance
Mean salary of full-time faculty[c]	change	decrease faculty salaries more
Full-time faculty members	change	decrease number of faculty members
E&G expenditures/FTE student	static	spend more per student
FTE students[c]	change	have decreasing enrollments
FTE students	static	have fewer students
Unrestricted CFR/FTE student	static	have greater revenues per student
Full-time faculty members	static	have fewer faculty members
CFE/FTE student	static	spend more per student
CFE/FTE student	change	increase expenditures more per student
Tuition and fee revenues/FTE student	change	increase tuition revenues more per student
Net tuition revenues/FTE student	change	increase net tuition more per student
Tuition rate	static	charge higher tuition
(All other variables were found to be not significant at the .01 level.)		
Public 2-Year Colleges		
FTE students	static	have fewer students
Interest payments on debt/CFE	static	spend a smaller proportion on interest payments (!)

Table 7 (continued)

Indicator	Form[b]	In Contrast to Other Colleges, Colleges in Distress Tend to...
Full-time faculty members	static	have fewer faculty members
Plant debt/plant assets	static	have less debt per assets (!)
Mean salary of full-time faculty[c]	change	decrease faculty salaries
Debt on plant/CFR	static	have less debt per CFR (!)
Payments on plant debt/principal owed	static	pay off less debt principal
FTE students/full-time faculty	static	have fewer students per faculty member
Debt on plant/CFR	change	have less of a decrease in debt per CFR
Plant debt/plant assets	change	decrease their debt less per assets
Research expenditures/full-time faculty	static	spend less on research per faculty member
CFR/full-time faculty	static	have less revenue per faculty member
Room charges	static	have higher room charges
Net auxiliary revenue/auxiliary revenue	static	have negative net auxiliary revenue
Mean salary of full-time faculty	static	pay their faculty less

(All other variables were found to be not significant at the .01 level.)

[a] Indicators are ordered from those having the strongest relation to distress to those having the weakest relation to distress.

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

[c] Extreme values on this variable were used to identify distress. Consequently, the relation of this indicator to distress was assumed and cannot be validated by these analyses.

Nevertheless, static indicators tended to be more closely related to institutional viability than change indicactors in our analyses. A probable reason is that the value of an indicator in a particular year reflects accumulated change over many previous years, and therefore the current value of an indicator is usually more informative than the change in that indicator over a period of only the previous two or three years. This conclusion is supported by the finding that change indicators tended to become more closely related to institutional viability as they spanned a greater number of years. If we had been able to compute change indicators over a period of four, five, or more years, possibly they would then have been as informative as the static indicators.

It is unfortunate that indicators for the previous year did not usually predict distress as well as did indicators for the current year. It would be useful for federal and state educational policymakers and for individual colleges to be able to use data for one year to predice institutional status the next year. There were a few cases, however, where the previous year's value was a much better predictor of distress than the current year's value: indicators concerning endowment market value for private 4-year colleges; indicators concerning the current fund balance for private 2-year colleges; and, for public 2-year colleges, net auxiliary revenue, the student-faculty ratio, and various indicators concerning the amount of plant debt and payments on the principal. Although we did not do so, one could use these and other validated indicators to construct a composite index that would best predict distress in the following year.

The following summary describes which types of measures were or were not found to be valid indicators of distress. (See Table 3 for a list of measures of each type.)

Indicators of reliance on various sources of revenues (Indicators 1-10). With only a single exception (endowment income for private 4-year colleges), none of these ten indicators was found to be related to distress. Likely candidates that were not validated included tuition and fees revenues, government appropriations, unrestricted private gifts, and the proportion of current fund revenues that are restricted.

Indicators of revenues per student or faculty member (Indicators 11-16). Half of these indicators were found to be valid indicators of distress for private 2-year colleges (tuition and fees, net tuition, and unrestricted current fund revenues per student). Current fund revenues per faculty member was validated for the other two sectors.

Indicators of net revenues (Indicators 17-19). Total net revenue was validated for private 4-year colleges, and net auxiliary revenue was validated for private 2-year colleges. None of these indicators was found to be related to distress for private 2-year colleges.

Indicators of the distribution of educational and general expenditures (Indicators 20 and 21). Low proportions for instructional expenditures and library expenditures (presumably leading to lower quality educational services) were found to be valid indicators of distress for private 4-year colleges but not for the other sectors.

Indicators of the distribution of current fund expenditures (Indicators 22-31). Three out of ten of these indicators were valid for private 4-year colleges (instructional expenditures, unrestricted scholarships, and interest payments on plant debt). None of these indicators was validated for either of the other two sectors.

Indicators of expenditures per student or faculty member (Indicators 32-36). Unrestricted scholarships per student was validated for private 4-year colleges; educational and general expenditures and current fund expenditures per student were validated for both of the private sectors; and research expenditures per faculty member was validated for public 2-year colleges. Instructional expenditures per student was not related to distress for any of the sectors.

Ratios of scholarship expenditures to tuition revenues (Indicators 37 and 38). These two indicators were not valid for any sector.

Indicators concerning fund balances (Indicators 39-45). All of these indicators were related to distress for private 4-year colleges (fund balances, net changes in funds, and value of endowment). Indicators based on

the current fund balance were related to distress for private 2-year colleges, but none of the fund balance indicators was found to be valid for public 2-year colleges. However, one should remember that a decreasing and negative current fund balance was used to identify distress among private colleges and therefore cannot be validated by these analyses. The public colleges tended to have little or no endowment and to have positive current fund balances even when showing signs of distress in other ways.

Indicators of plant assets and indebtedness (Indicators 46-49). Private 4-year colleges in distress tend to have more plant indebtedness than the rest of that sector, while public 2-year colleges tend to have less debt. These indicators were not related to distress for private 2-year colleges. The result for public 2-year colleges is interesting: It appears that colleges in distress were unable to secure loans (virtually no debt), and the lack of capital may have contributed to their distress.

Indicators concerning enrollment and faculty members (Indicators 50-55). Large decreases in enrollment and in faculty salaries were used to identify colleges in distress and therefore cannot be validated by these analyses. In addition, however, low enrollment and small numbers of full-time faculty members were related to distress for all sectors, and low salaries and low student-faculty ratios were related to distress for private 4-year colleges and public 2-year colleges. In sum, colleges in distress tend to be small, to be losing enrollments, and to be unable to reduce the number of faculty in proportion to the reduction in the number of students. The proportions of part-time or unclassified students at a college were not related to distress for any sector.

Indicators of student tuition and fees (Indicators 56-61). Private 4-year colleges in distress tended to decrease undergraduate tuition rates and board charges, private 2-year colleges in distress tended to have high tuition rates, and public 2-year colleges in distress tended to have high room charges. Small colleges tend to be unable to take advantage of economies of scale (e.g., they tend to have high expenditures per student) and to be inefficient (e.g., few students per faculty member). Consequently,

they usually have high tuition, room, and board rates to help cover expenditures. When they find themselves in distress, which frequently happens to small colleges, one response is to lower student charges so as to be more competitive and attract more students.

DEVELOPMENT OF A COMPOSITE INDEX OF INSTITUTIONAL VIABILITY

To determine the strengths and weaknesses of various types of colleges, we can examine their values on a number of individual indicators. One type of college (e.g., single-sex colleges) may frequently be weak because of declining enrollments, while another type of college (e.g., traditionally black colleges) may frequently be weak because of low levels of endowment per student. We cannot, therefore, disregard the individual indicators that have been validated as being related to distress for one or more higher education sectors. However, it will often be handy to have a composite measure that summarizes an institution's viability. One approach is to use discriminant analysis to combine the validated indicators for each sector and weight them so as to best identify institutional distress. The purpose of developing these discriminant functions is to enable us to identify colleges with patterns of indicator values similar to colleges that had closed, defaulted, or experienced severe declines in some vital resource, since many of these colleges may also be in distress and may have a higher probability of closing or defaulting in the near future than the rest of the population.

The development of a composite index of distress, DSCORE, for each sector was accomplished in two steps. First, discriminant analyses were performed separately for the three sectors that had sufficient numbers of colleges identified as being in distress in 1978. The only variables included in the analyses were those static and change indicators that had been found to be significantly related to distress in each sector in 1978. Second, the unstandardized discriminant coefficients were used to calculate a 1978 distress score, DSCORE78, for each college in the three sectors. (In addition, we have tentatively applied the composite index developed for private 4-year colleges to private universities.)

Figures 2-4 display the frequency distributions for DSCORE78 for colleges not known to be in distress and for colleges identified as being in distress, separately by sector. DSCORE was designed to have a mean of zero within each sector, and the standard deviations are approximately one. Colleges in distress do tend to fall on the lower tail of the distributions, with a mean value of -2.3 for each of the three sectors. Colleges not known

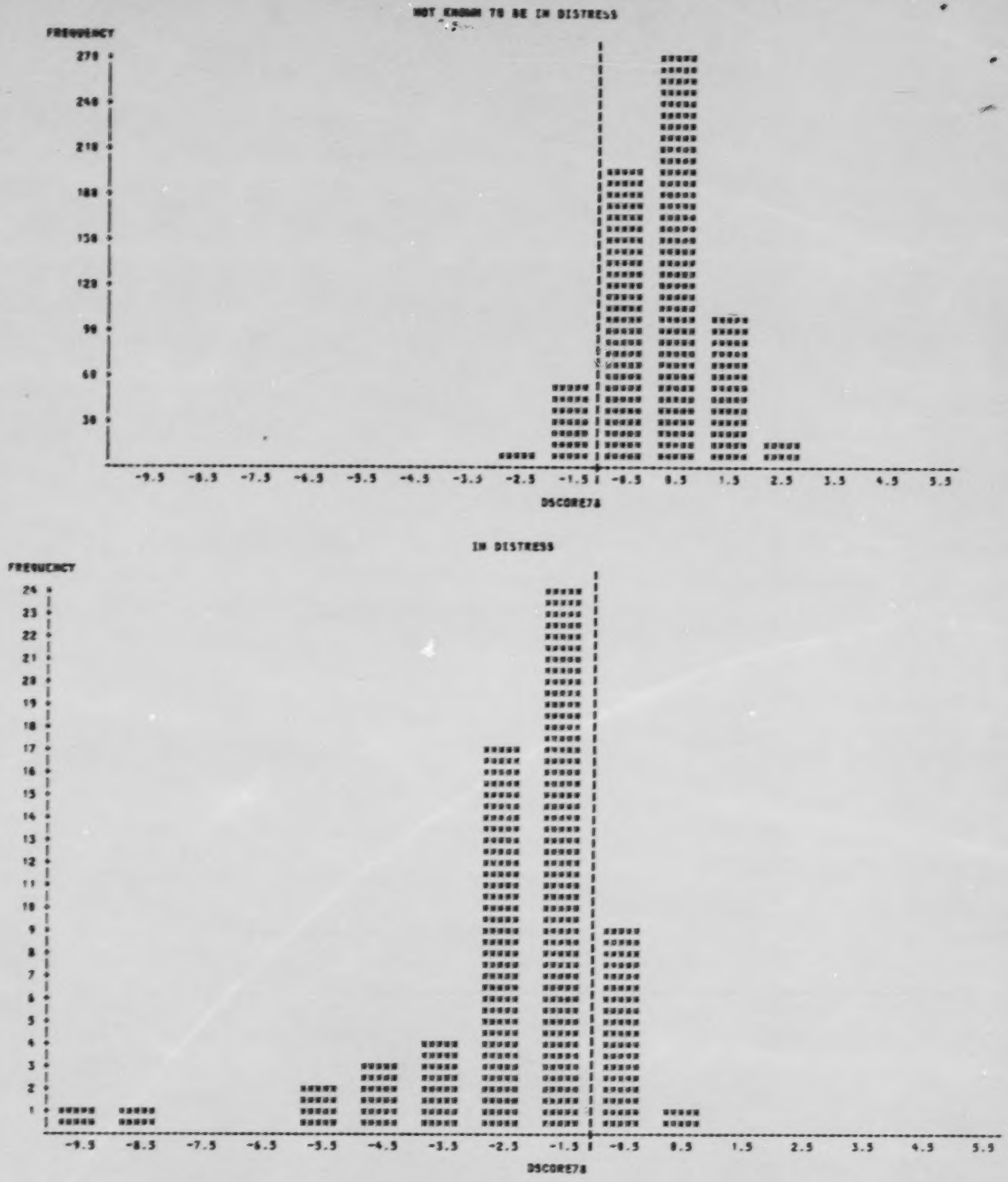

Figure 2. Frequency distribution of the composite index of distress for <u>private four-year colleges</u> in 1978, separately for colleges not known to be in distress and colleges identified as being in distress.

<u>Note</u>. The vertical dashed line marks the point on the scale (-1.0) chosen to classify colleges into those in distress and those not in distress. This dividing point was used uniformly to simplify comparisons among sectors and among years.

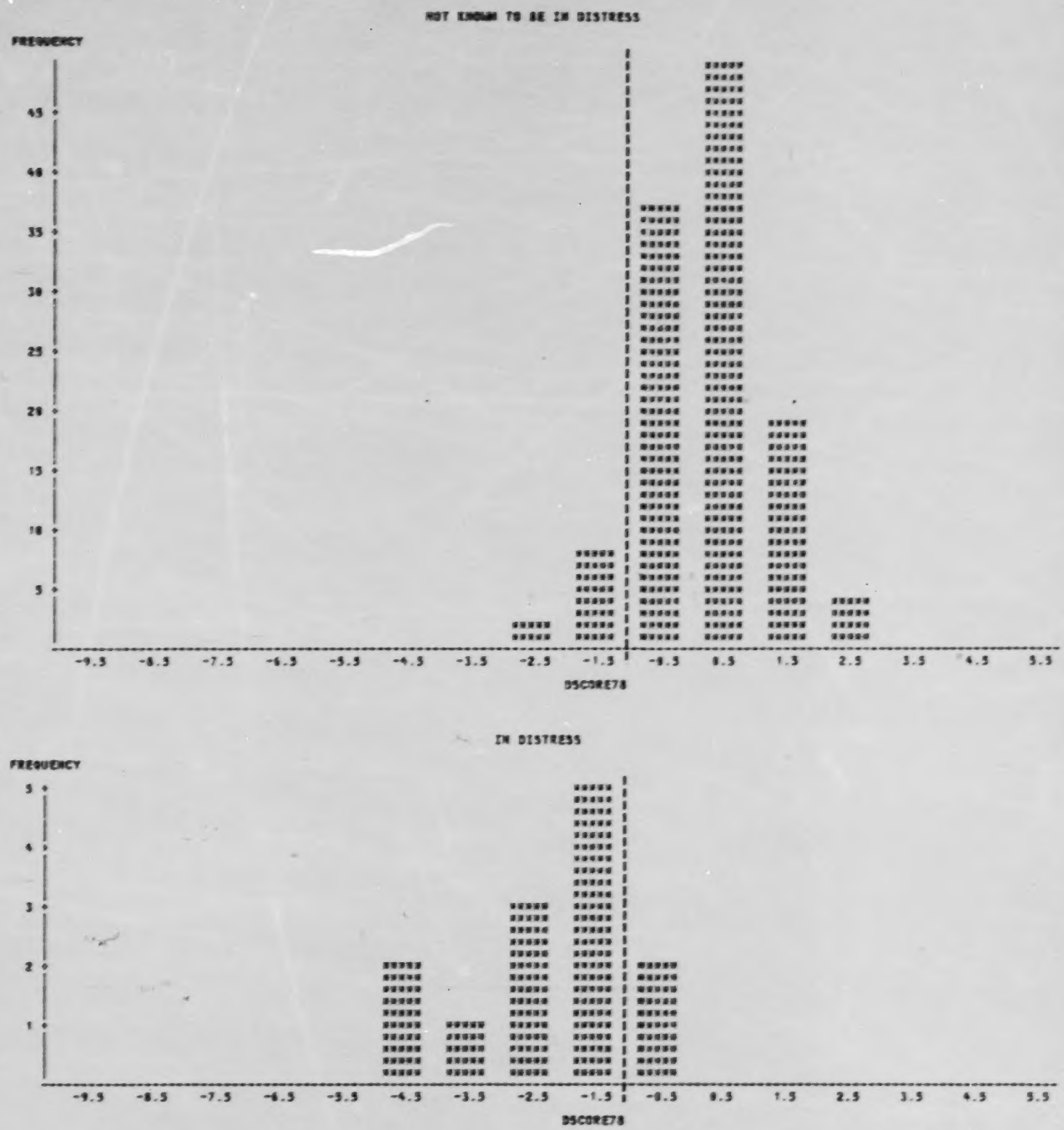

Figure 3. Frequency distribution of the composite index of distress for private two-year colleges in 1978, separately for colleges not known to be in distress and colleges identified as being in distress.

Note. The vertical dashed line marks the point on the scale (-1.0) chosen to classify colleges into those in distress and those not in distress. This dividing point was used uniformly to simplify comparison among sectors and among years.

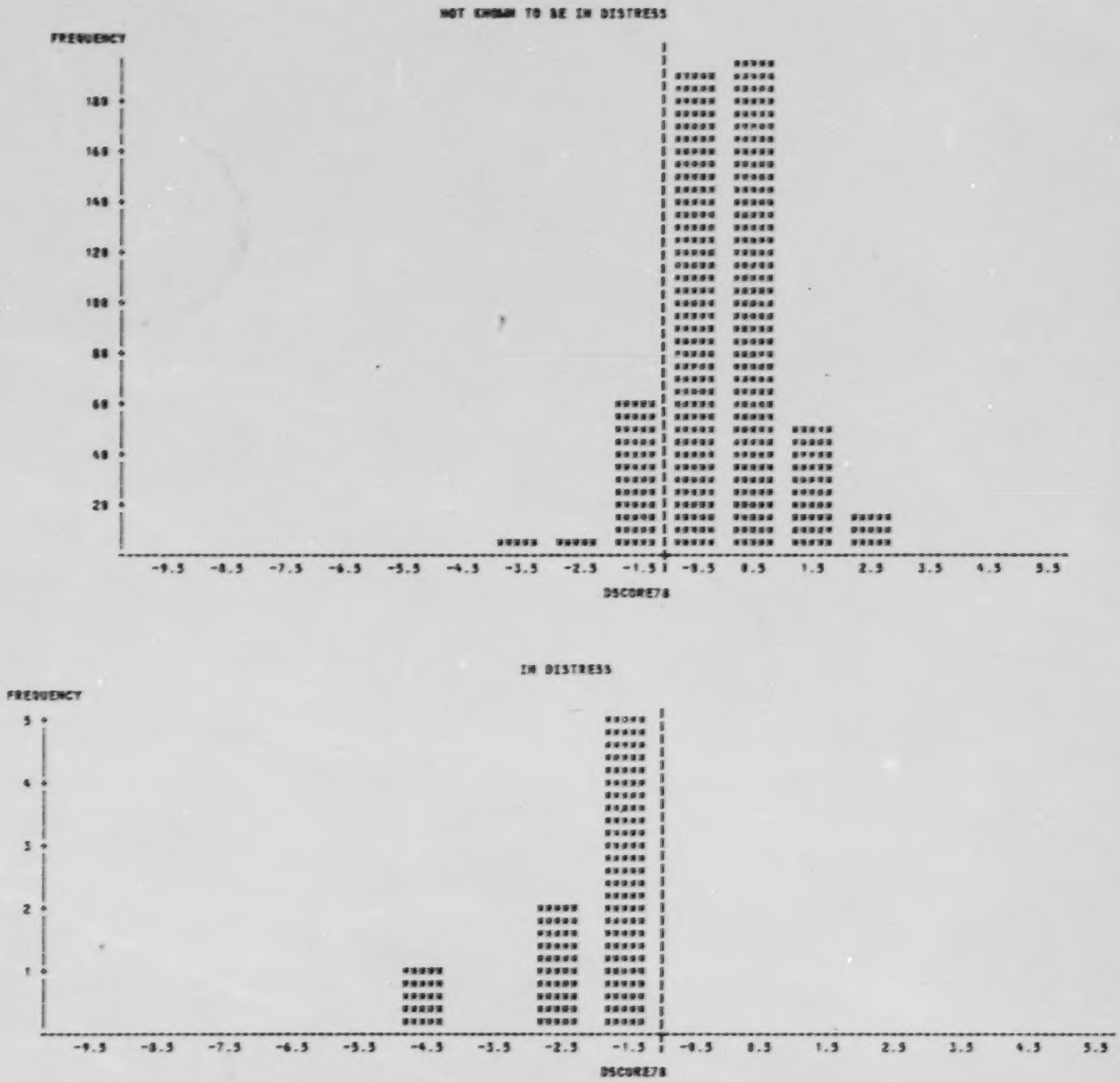

Figure 4. Frequency distribution of the composite index of distress for public two-year colleges in 1978, separately for colleges not known to be in distress and colleges identified as being in distress.

Note. The vertical dashed line marks the point on the scale (-1.0) chosen to classify colleges into those in distress and those not in distress. This dividing point was used uniformly to simplify comparisons among sectors and among years.

to be in distress have mean values of 0.2 for both private sectors and 0.0 for public 2-year colleges. Table 8 summarizes the classification "accuracy" of the discriminant functions when a cutoff score of -1.0* is used to classify colleges as being or not being in distress. One should remember, however, that many of the colleges not known to be in distress may actually be experiencing severe problems, and therefore their low values on DSCORE and their "misclassification" by the discriminant function as being in distress may be quite appropriate. From 8% to 13% of the colleges not known to be in distress are classified as being distress, which are quite reasonable proportions. High proportions of the colleges in each sector are "correctly" classified, although that is not as important as the proportion of colleges in distress correctly classified. From 84% to 100% of colleges identified as being in distress had values for DSCORE78 below -1.0.

Although we were unable to develop composite distress scores for universities or for public 4-year colleges (since none or few were identified as being in distress), we could apply the summary measures developed for private 4-year colleges to private universities. We have tentatively done this, although we do not know how valid this form of DSCORE is for private universities. The results are displayed in Figure 5. As one would expect, almost all of these universities receive high scores and would be judged to be viable based on this measure. Four private universities, however, receive scores below -1.0 and therefore would be classified as being in distress based on DSCORE.

Validation of the Index

It was our intention at this point to develop discriminant functions independently for two half-samples of the colleges in each sector and then to apply each of those functions to the other half of the sector to

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* The statistically optimal dividing point between colleges in distress and not in distress was approximately -1.0 in all three sectors. A cutoff score of -1.0 is used uniformly throughout this presentation to simplify comparisons across sectors and years and to simplify interpretation of graphed frequency distributions.

Table 8

Classification "Accuracy" of the Discriminant Functions in 1978, Separately by Sector

Actual Group	Number of Cases[a]	Predicted Group: In Distress N	In Distress %	Predicted Group: Not in Distress N	Not in Distress %	Percent of All Cases "Correctly" Classified[b]	Percent of Cases in Distress Correctly Classified[b]
4-Year Private Colleges							
In Distress	62	52	(83.9)	10	(16.1)	90.1	83.9
Not Known to Be in Distress	632	59	(9.3)	573	(90.7)		
2-Year Private Colleges							
In Distress	13	11	(84.6)	2	(15.4)	90.9	84.6
Not Known to Be in Distress	119	10	(8.4)	109	(91.6)		
2-Year Public Colleges							
In Distress	8	8	(100.0)	0	(0.0)	87.5	100.0
Not Known to Be in Distress	519	66	(12.7)	453	(87.3)		

[a] Cases missing data on any of the indicators in the discriminant function are excluded.

[b] To simplify comparisons among sectors and among years (Tables 9 and 10), a standard cutoff point of -1.0 was used to classify cases. All three discriminant analyses resulted in differential classifications at approximately this value.

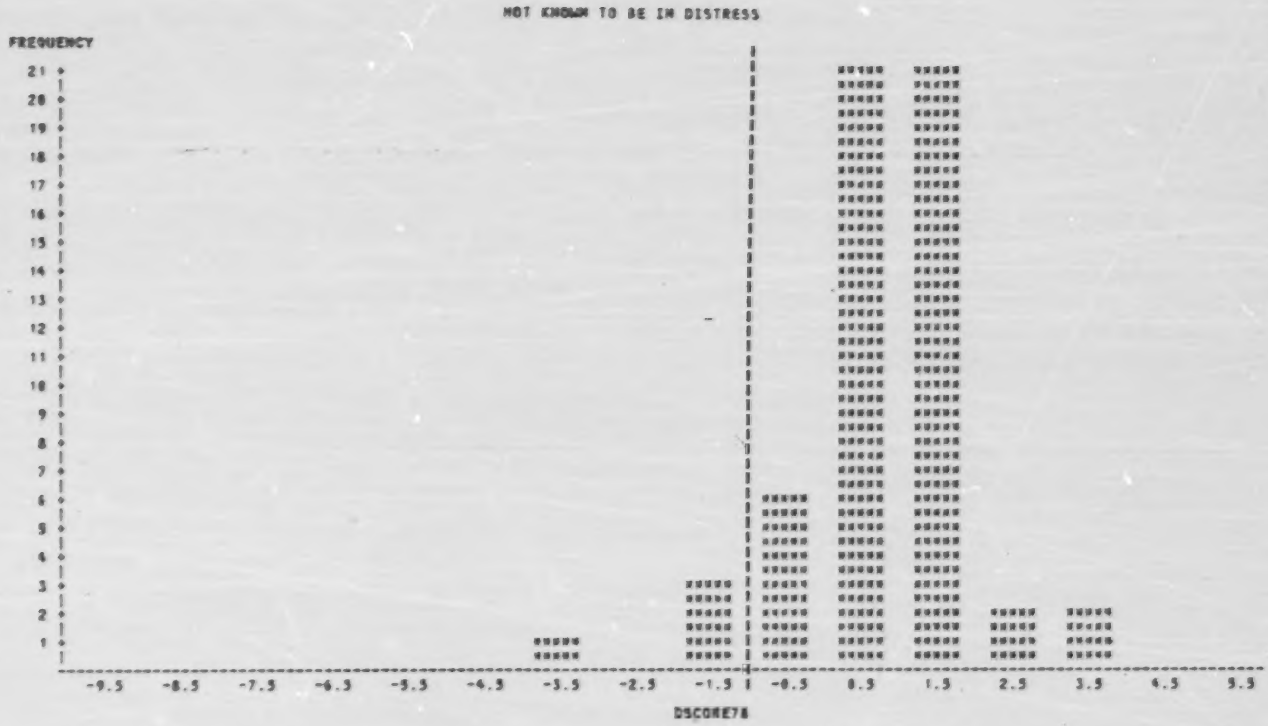

Figure 5. Frequency distribution of the composite index of distress developed for private four-year colleges when applied to <u>private universities</u> in 1978.

<u>Note</u>. The vertical dashed line marks the point on the scale (-1.0) chosen to classify colleges into those in distress and those not in distress.

cross-validate the discriminant functions. Unfortunately, we have identified too few cases of distress to split the sectors in half. An alternative and, in this case, more appropriate and informative method of validating the utility of DSCORE is to apply the functions to data for previous years and determine how well they identify colleges in distress in those years. If the functions perform well in past years, they should also be valid in future years (i.e., after 1978). The only obstacle to applying the functions to past years is that some of the variables used to compute DSCORE78 are not available in comparable form for earlier years. For example, changes in value over a three-year period are not available for 1977 and 1976 because the file does not extend further back than 1975. The compromise we adopted was to substitute a form of each variable as close to its form in the computation of DSCORE78 as possible. Thus, in computing DSCORE77 and DSCORE76, the static indicator values were based on 1977 and 1976 data (as one would expect), and the change indicator values were based on change from 1975, even though that was a shorter span of years than 1975-1978. This compromise would tend to cause DSCORE to be less discriminating in 1977 and 1976.

The results are displayed in Tables 9 and 10. As would be expected, the composite measure does not identify distress quite as well for past years as for the year from which it was developed (1978). However, DSCORE77 and DSCORE76 do identify most of the colleges known to be in distress in all three sectors in those years. Consequently, we conclude that the composite measure of distress continues to provide an accurate assessment of the statuses of colleges in years other than 1978 and, given more recent data, it could be applied to determine the current conditions of colleges in the sectors for which it was developed.

In summary, we have validated a number of indicators as being related to distress. The indicators found to be related to distress in each sector were weighted to form summary measures of distress and viability. These summary measures accurately identify distress in 1978, and, when applied to earlier years (using indicators as similar as possible to the indicators comprising the 1978 measure), they continue to perform well.

Table 9

Classification "Accuracy" of the Discriminant Functions in 1977, Separately by Sector

Actual Group	Number of Cases[a]	Predicted Group: In Distress N	In Distress %	Predicted Group: Not in Distress N	Not in Distress %	Percent of All Cases "Correctly" Classified[b]	Percent of Cases in Distress Correctly Classified[b]
4-Year Private Colleges							
In Distress	42	35	(83.3)	7	(16.7)	88.1	83.3
Not Known to Be in Distress	661	77	(11.7)	584	(88.3)		
2-Year Private Colleges							
In Distress	12	7	(58.3)	5	(41.7)	79.1	58.3
Not Known to Be in Distress	127	24	(18.9)	103	(81.1)		
2-Year Public Colleges							
In Distress	14	11	(78.6)	3	(21.4)	88.3	78.6
Not Known to Be in Distress	518	59	(11.4)	459	(88.6)		

[a] Cases missing data on any of the indicators in the discriminant function are excluded.

[b] A standard cutoff point of -1.0 was used to classify cases.

Table 10

Classification "Accuracy" of the Distriminant Functions in 1976, Separately by Sector

Actual Group	Number of Cases[a]	Predicted Group: In Distress N	Predicted Group: In Distress %	Predicted Group: Not in Distress N	Predicted Group: Not in Distress %	Percent of All Cases "Correctly" Classified[b]	Percent of Cases in Distress Correctly Classified[b]
4-Year Private Colleges							
In Distress	35	25	(71.4)	10	(28.6)	85.0	71.4
Not Known to Be in Distress	673	96	(14.3)	577	(85.7)		
2-Year Private Colleges							
In Distress	11	8	(72.7)	3	(27.3)	87.1	72.7
Not Known to Be in Distress	136	16	(11.8)	120	(88.2)		
2-Year Public Colleges							
In Distress	17	11	(64.7)	6	(35.3)	80.6	64.7
Not Known to Be in Distress	514	97	(18.9)	417	(81.1)		

[a] Cases missing data on any of the indicators in the discriminant function are excluded.

[b] A standard cutoff point of -1.0 was used to classify cases.

ANALYSIS OF WHICH TYPES OF COLLEGES ARE OFTEN NOT VIABLE AND WHY

To simplify visual presentations, DSCORE was converted into a five-level summary index of viability, from a grade of A for colleges that appear to be especially strong (i.e., have very high values on DSCORE) down to a grade of E for colleges that appear not to be viable. Colleges with values for DSCORE more than one standard deviation above the mean for their sector were assigned a grade of A, colleges between one-half and one standard deviation above the mean were assigned a grade of B, colleges within a half standard deviation of the mean were assigned a grade of C, colleges between one-half and one standard deviation below the mean were given Ds, and colleges more than one standard deviation below the mean DSCORE for their sector were given distress grades of E. Colleges with distress grades of D or E have patterns of indicator values that are similar to the patterns exhibited by colleges in their sector that closed, defaulted on a federal loan, or in other ways exhibited distress.

Figure 6 displays the distribution of these summary distress grades in 1978 for the entire population. Notice that 1,509 colleges have received grades (the numbers at the base of each block in the figure refer to the number of colleges in that category). Colleges may not have received a grade in 1978 and therefore not be included in Figure 6 for any of several reasons.

- DSCORE could be developed for only three sectors: public two-year colleges and private four- and two-year colleges. Therefore, universities and public four-year colleges were not included in the analyses described in this section.
- DSCORE is a composite measure derived from the indicators that were validated as being related to distress within each sector. If a college was missing data on one or more of those indicators, however, then DSCORE was undefined for that college and it did not receive a grade.
- Any college that closed before 1978 would not be included in Figure 6.

The following series of figures display the distributions of summary distress grades for various kinds of colleges as defined by Carnegie and

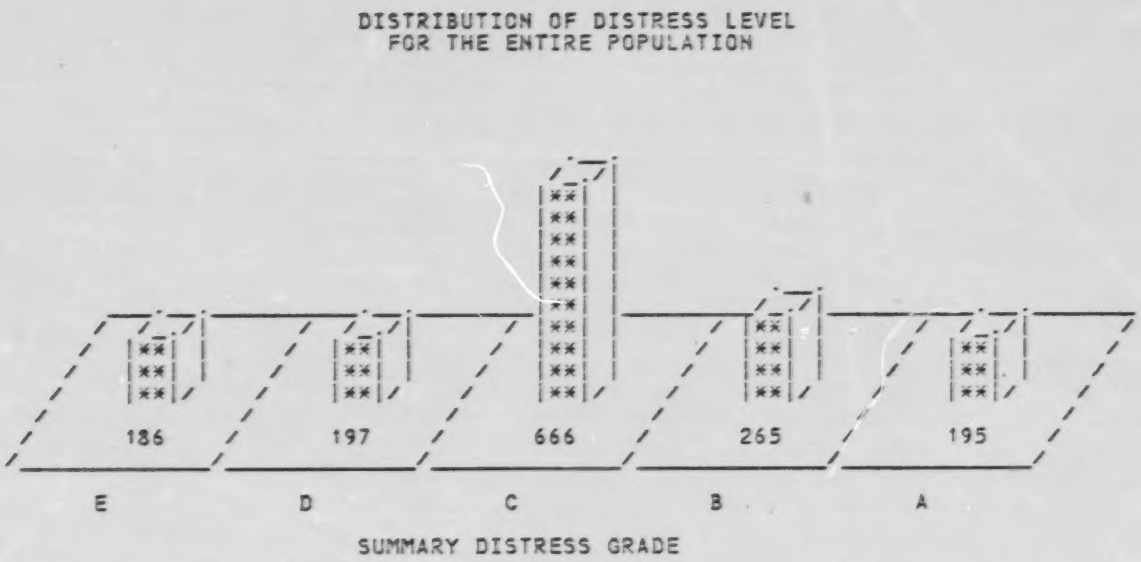

Figure 6. Frequency distribution of all summary distress grades in 1978.

National Center for Higher Education Management Systems (NCHEMS) classification codes, predominant race and sex of enrollment, religious affiliation, Title III funding (developing institutions), and Basic Educational Opportunity Grant (BEOG) awards made to students. Some kinds of colleges that might be of interest are not included in these figures because few or no cases had received grades, either because they were universities or public four-year colleges (e.g., medical schools and law schools) or because they were missing data needed to compute DSCORE.

Figure 7 contains the distributions of grades for all the Carnegie and NCHEMS classification categories (that had any cases with grades). Similar Carnegie and NCHEMS categories have been displayed across from each other to aid comparison.* Because distress scores could not be developed for universities or public four-year colleges, there are no charts for the Carnegie categories of medical schools, law schools, or institutions for nontraditional study or for NCHEMS categories of U.S. service schools, medical schools, or law schools.

Three of these distributions show greater proportions of cases with grades of D or E than is true for the population as a whole (compare to Figure 6). First, many liberal arts colleges II appear not to be very viable. (These colleges are approximately equivalent to the "invisible colleges" studied by Astin and Lee [1972] and to the small, relatively unselective colleges described by Andrew and Friedman [1976].) NCHEMS's corresponding-but-broader category of general baccalaureate colleges includes many liberal arts colleges I and comprehensive colleges II, both of which tend to have high scores on the composite index, and therefore the frequent distress of liberal arts colleges II does not become apparent under the NCHEMS classification scheme. Second, teachers colleges, as classified

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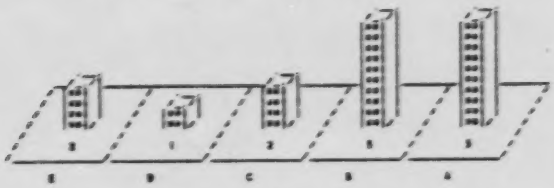
* Although Carnegie and NCHEMS categories have similar labels, the two methods of classification often differentiate sets of colleges that do not correspond closely to one another. As just one example, 14% of the Carnegie teachers colleges are classified as other specialized schools by NCHEMS, 10% as divinity schools, and 5% as general baccalaureate colleges; while 32% of NCHEMS's teachers colleges are classified as liberal arts colleges II by Carnegie, 14% as comprehensive colleges II, 11% as comprehensive colleges I, and 11% as schools of fine arts. Clearly, there is much less overlap between the two classifications than one might have expected.

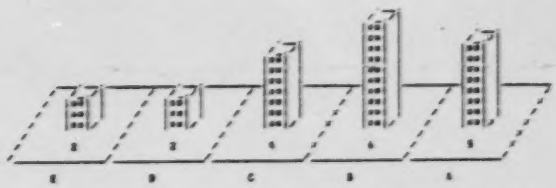
Carnegie Category

NCHEMS Category

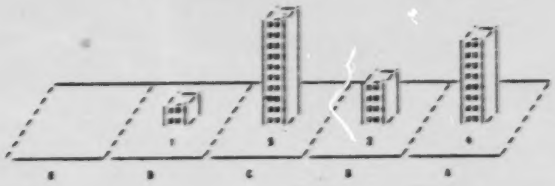
Research Universities I



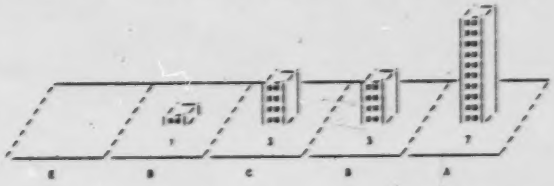
Major Doctoral Colleges (Research)



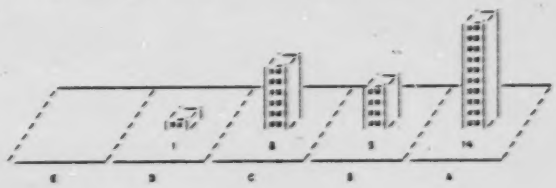
Research Universities II



Doctorate-Granting Universities I



Major Doctoral Colleges (Nonresearch)



Doctorate-Granting Universities II

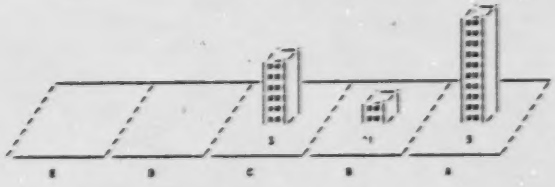
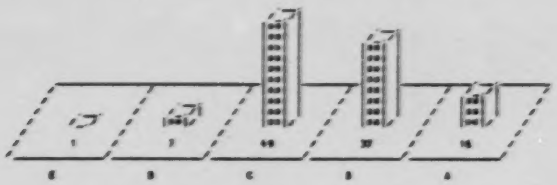


Figure 7. Frequency distributions of summary distress grades in 1978 by Carnegie and NCHEMS institutional classifications.

Note: The height of the block in the most frequent category is always the same, and the heights of the other blocks in a distribution represent frequencies proportional to the most frequent category. Consequently, equal sized blocks may represent differing numbers of colleges from one distribution to the next.

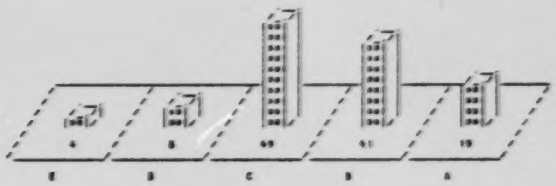
Carnegie Category

Comprehensive Colleges I

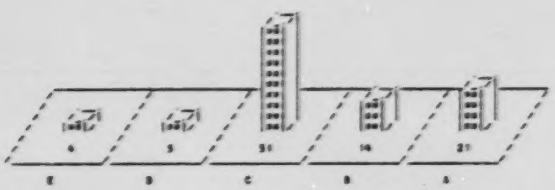


NCHEMS Category

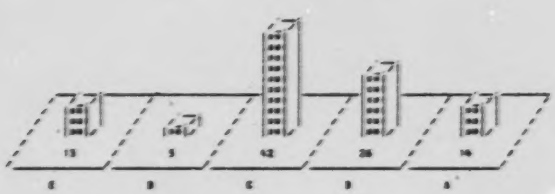
Comprehensive Colleges



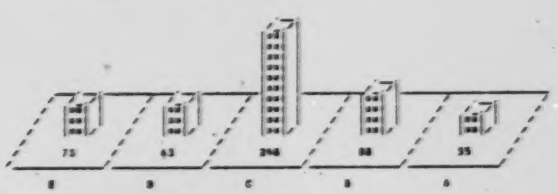
Comprehensive Colleges II



Liberal Arts Colleges I



General Baccalaureate Colleges



Liberal Arts Colleges II

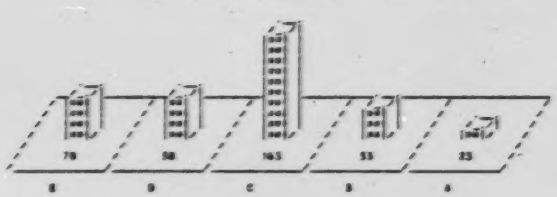
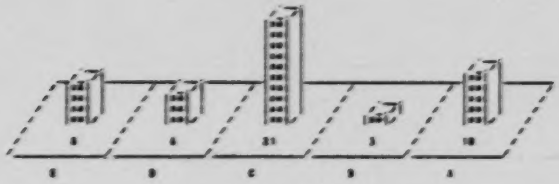


Figure 7 (continued)

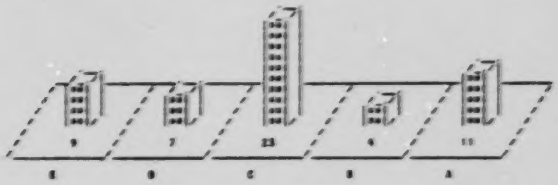
Carnegie Category

NCHEMS Category

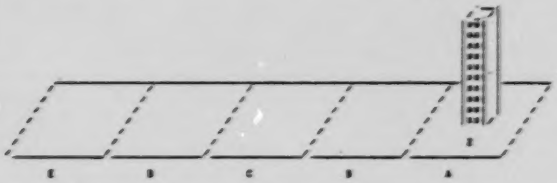
Religious Colleges



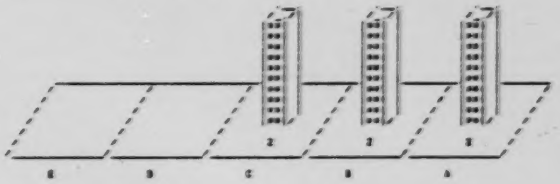
Divinity Schools



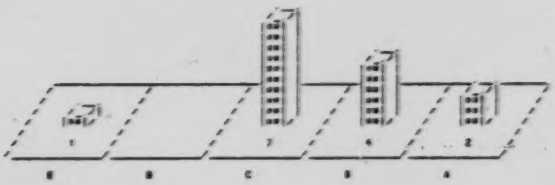
Other Health Professional Schools



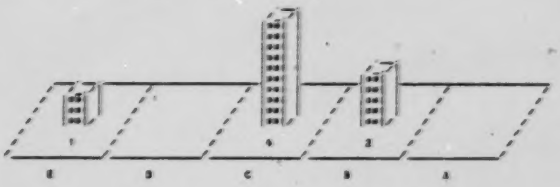
Other Health Professional Schools



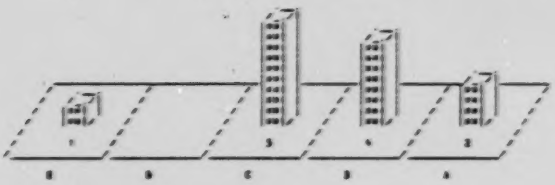
Engineering Schools



Engineering and Technical Schools



Business Schools



Business Schools

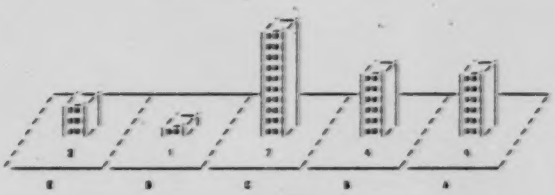
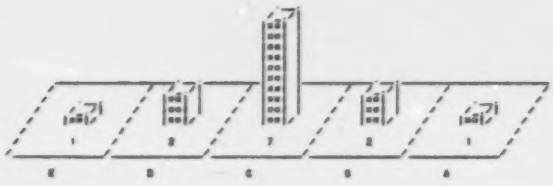


Figure 7 (continued)

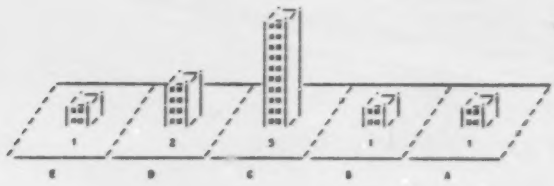
Carnegie Category

NCHEMS Category

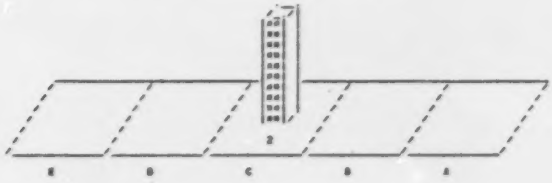
Schools of Fine Arts



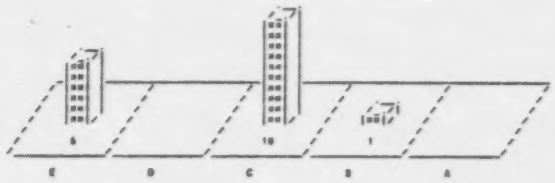
Art and Music Schools



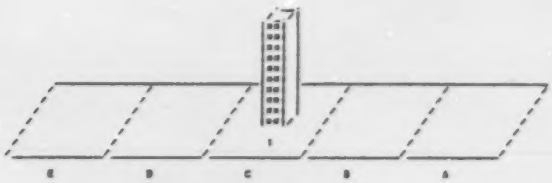
Teachers Colleges



Teachers Colleges



Other Specialized Institutions



Other Specialized Institutions

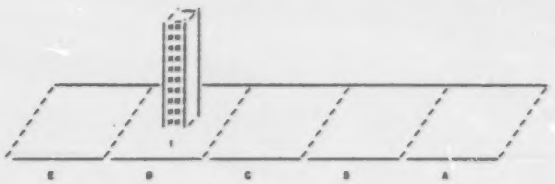
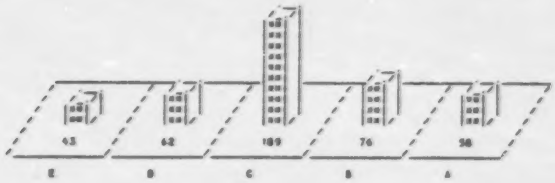


Figure 7 (continued)

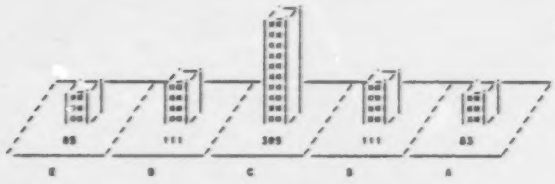
Carnegie Category

NCHEMS Category

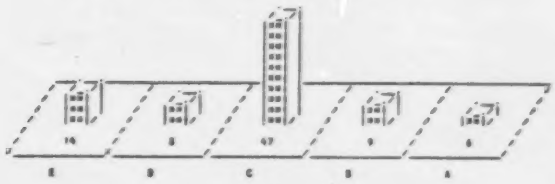
Two-Year Colleges (Comprehensive)



Two-Year Colleges



Two-Year Colleges (Academic)



Two-Year Colleges (Vocational and Technical)

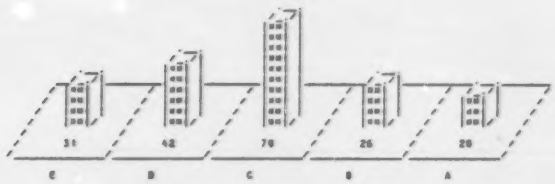


Figure 7 (continued)

by the NCHEMS code, frequently have grades of E (one or more standard deviations below the mean). The Carnegie classification of teachers colleges does not correspond closely to the NCHEMS classification (as noted earlier), and as most Carnegie teachers colleges are public four-year colleges, grades were not assigned to them. Third, two-year vocational colleges (NCHEMS classification) frequently appear to have low viability. Carnegie codes have only a single category for all two-year colleges, and consequently the frequent distress of vocational two-year colleges in comparison to other two-year colleges (i.e., academic and comprehensive two-year colleges) is not revealed under the Carnegie classification scheme.

Figure 8 displays distributions of summary distress grades for traditionally black institutions and for colleges whose predominant race or ethnic group of students is other than white non-Hispanic. Traditionally black institutions and colleges with a predominant enrollment of black non-Hispanic students are quite often (45%) assigned to the lowest levels of viability. In contrast, the few colleges with predominantly Hispanic enrollments appear to be strong on the whole, possibly because these colleges are often part of the statewide community college systems in California or Florida.

Figure 9 displays distributions of summary distress grades for men's, women's, and coordinate (i.e., associated men's and women's) colleges and for colleges with predominantly female students (75% or more of the enrollment). Women's colleges and colleges with predominantly female students frequently appeared to have low viability. This may explain why, during the years just prior to 1978, many women's colleges became coed--that is, possibly in response to financial and other pressures.

Figure 10 shows the distributions of distress grades for all religiously affiliated colleges and separately for the seven sects with the largest numbers of colleges. (Unfortunately, few of the Jewish colleges had all the data necessary for computing DSCORE, and therefore they could not be included in these analyses.) On the whole, religiously affiliated colleges do not seem to be either more viable or less viable than other colleges. Southern Baptist colleges tended to receive high scores, while

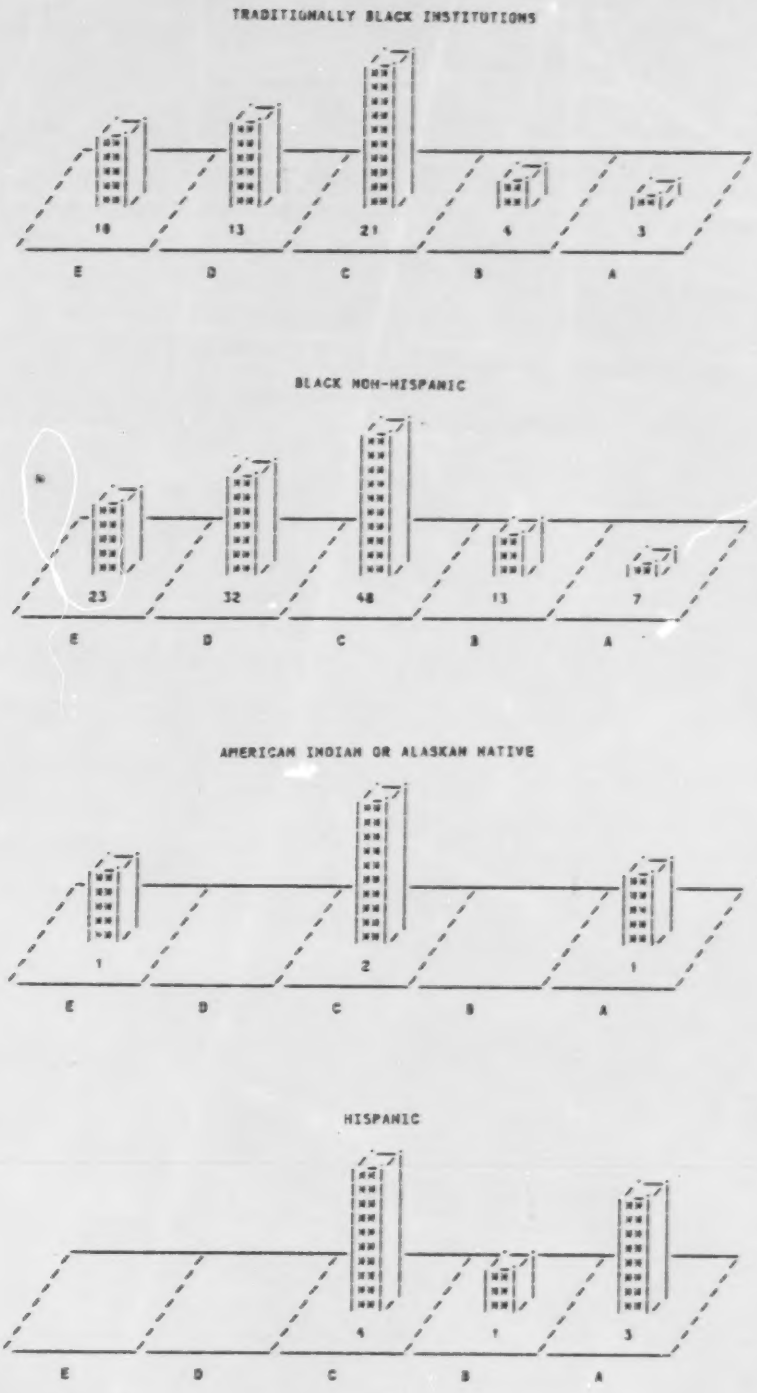


Figure 8. Frequency distributions of summary distress grades in 1978 for traditionally black colleges and by predominant racial/ethnic group of students (white non-Hispanics excluded).

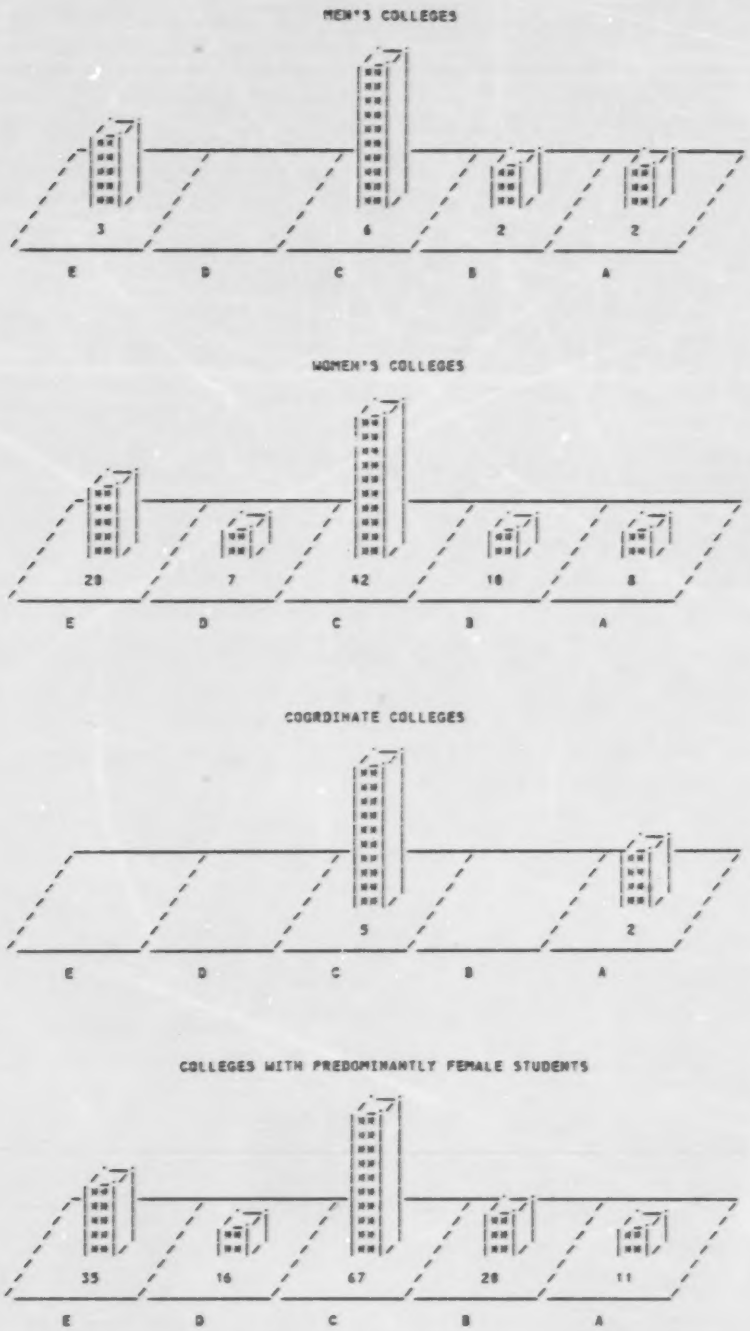


Figure 9. Frequency distributions of summary distress grades in 1978 for single-sex and coordinate single-sex colleges and for colleges with predominantly (75% or more) female students.

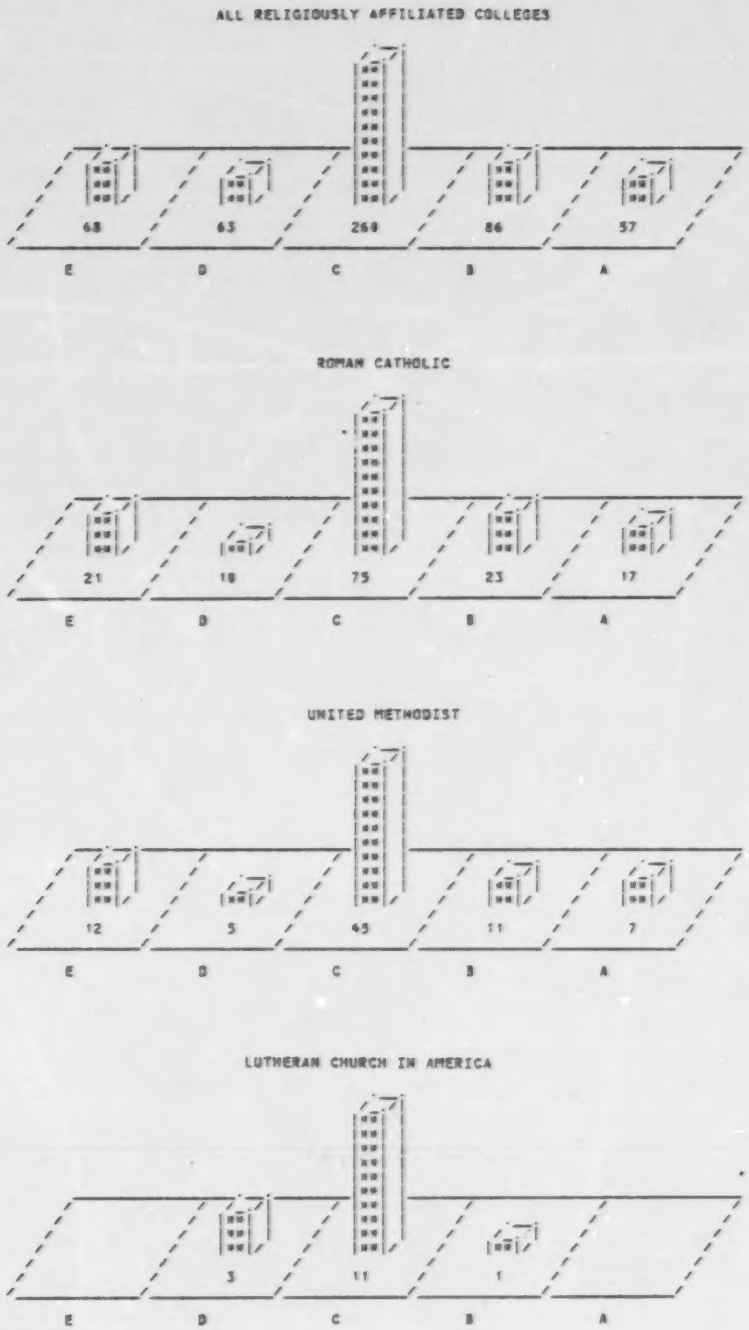


Figure 10. Frequency distributions of summary distress grades in 1978 for all religiously affiliated colleges and separately for the seven sects with the largest numbers of colleges.

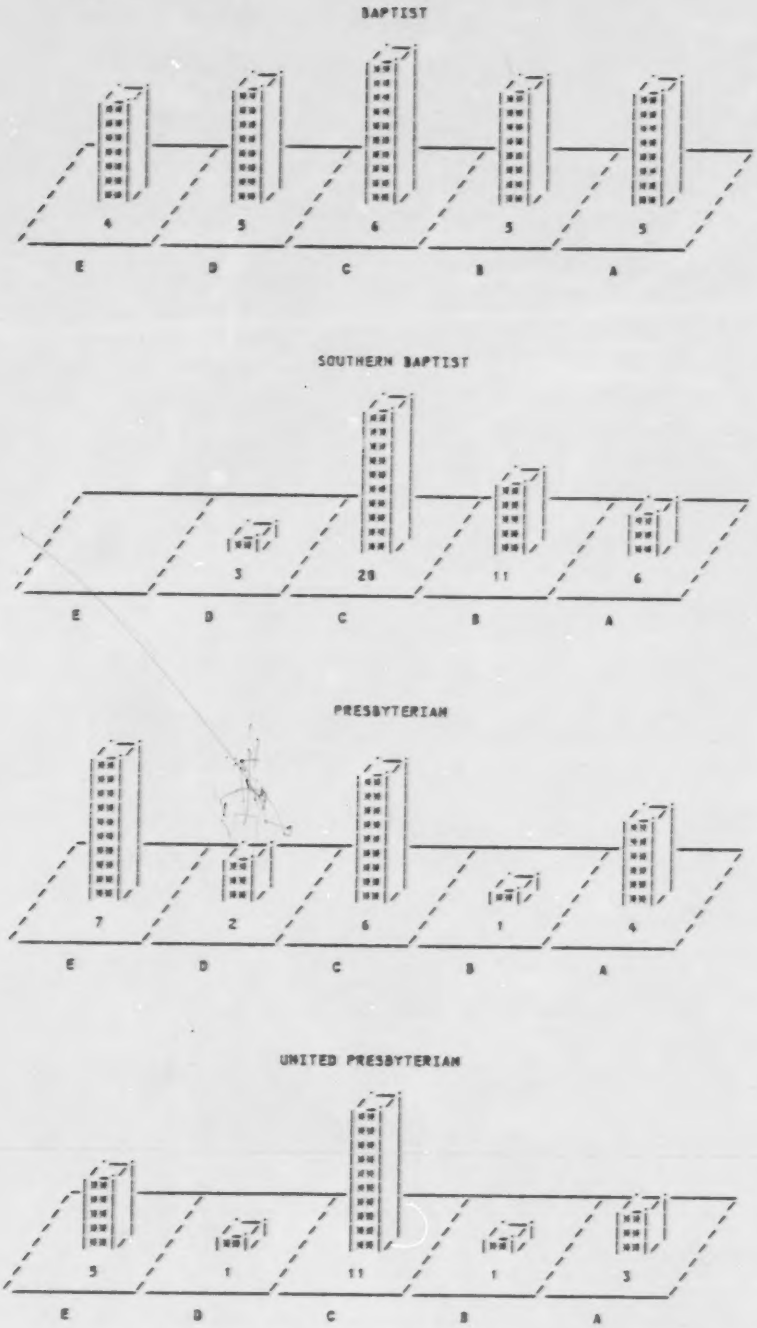


Figure 10 (continued)

Baptist and Presbyterian (not to be confused with United Presbyterian) colleges frequently received low viability scores.

The last figure (Figure 11) displays distributions of distress grades for colleges directly or indirectly receiving certain kinds of federal assistance: Title III institutions, colleges with a high proportion of students receiving Basic Educational Opportunity Grant (BEOG) awards (42.5% or more of enrollment--the highest 10% of all colleges in the country), and colleges with high mean BEOG awards per FTE student ($417 or more in 1978--again, the highest 10% of all colleges in the country). All three distributions show a higher proportion of colleges with grades of D or E than is found in the entire population (compare these distributions to Figure 6). Moreover, colleges with many students from lower income families (i.e., BEOG recipients) are likely to appear less viable than are Title III institutions.

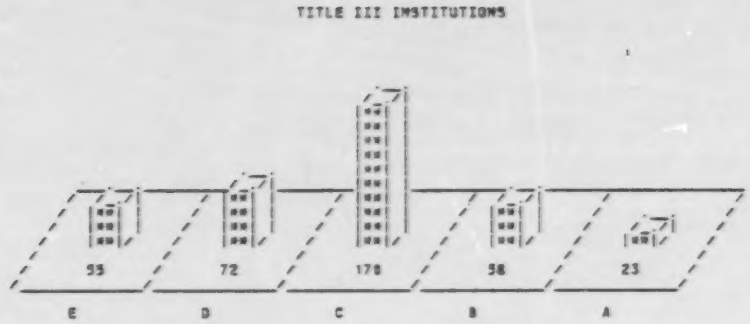
The following is a summary of what was done and has so far been learned from these analyses.

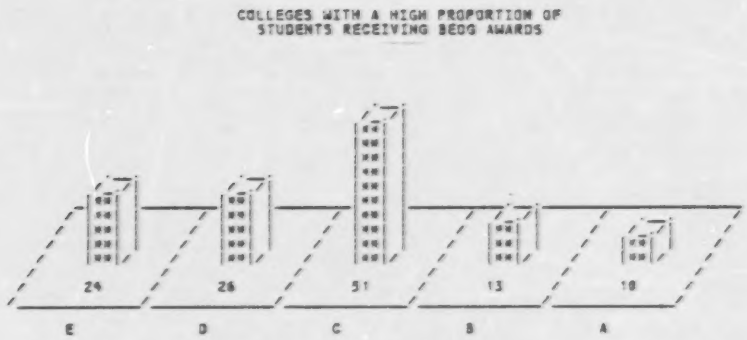
(1) Colleges were identified that exhibited two or more kinds of distress simultaneously. The criteria for being labeled as being in distress were made stringent so that one could be reasonably certain that these colleges were experiencing unusual difficulties. Too few universities or public four-year colleges were found to be in distress to continue analyses in those sectors.

(2) Potential indicators of distress were developed and validated separately within each of the three remaining sectors.

(3) The indicators found to be related to distress in each sector were combined to form a summary measure of distress, DSCORE, which not only was able to accurately categorize colleges in distress in 1978 (the year for which it was developed) but also was able to accurately categorize colleges in distress in 1977 and 1976.

(4) The distributions of DSCORE (converted into five levels or grades based on the standard deviations within each sector) were examined for a variety of different types of colleges. Some of those types of colleges were identified as frequently having DSCORE values more than half a standard deviation below the mean for their sector (i.e., grades of





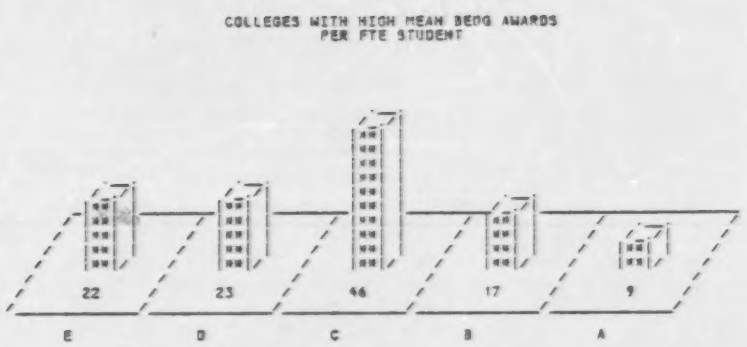


Figure 11. Frequency distributions of summary distress grades in 1978 for Title III institutions and for colleges with either a high proportion of students receiving BEOG awards or with high mean BEOG awards per FTE student.

D or E). We have interpreted these low values as indicating that these colleges appear to be less viable. The types of colleges among which we found the greatest frequency of low grades were:

(a) liberal arts colleges II,

(b) teachers colleges (under the NCHEMS classification system),

(c) two-year vocational colleges,

(d) traditionally black institutions,

(e) colleges with a predominant enrollment of black students,

(f) women's colleges,

(g) colleges with predominantly female enrollment,

(h) Baptist colleges,

(i) Presbyterian colleges,

(j) Title III institutions,

(k) colleges with a high proportion of students receiving BEOG awards, and

(l) colleges with high mean BEOG awards per FTE student.

With the perfect vision of hindsight, one might state that most or all of these types of colleges would be expected to be in difficulty. They are "known" to be weak--to be underfinanced, underattended, or inefficient in their operations (e.g., facilities not used to capacity). The "predictability" of these results is not disturbing, however. Quite the contrary, we would be disturbed if types of colleges commonly believed to be strong had often received low grades. The fact that the summary score distributions for various kinds of colleges agree with prevailing theories and opinions concerning the viability of different types of institutions increases our confidence in the validity of the summary measure of viability.

Sources of Distress for Various Kinds of Colleges

The next step in this analysis of institutional viability was to determine why the 12 kinds of colleges found to be less viable were receiving lower scores. In general, a low value on DSCORE means that a college exhibits a pattern of values on the validated indicators that is similar to the pattern exhibited by colleges known to be in distress in the same educational sector. However, there could be considerable variation in the patterns of indicator values of colleges that receive the same score on the summary measure. One college could receive a low score because of lack of endowment, another because of small and declining enrollments, and a third because of low and declining faculty salaries.

Tables 11, 12, and 13 explore the patterns of indicator values distinctive of particular kinds of colleges that received low viability grades and the following paragraphs summarize the ways in which these types of colleges showed distinctive patterns of distress. (Since the indicators that were validated as being related to distress vary from one sector to the next, a separate table is needed for each sector.) All 12 types of colleges do not appear on each table, either because a type of college is not found in a sector (e.g., Baptist colleges are never public) or because no instance of that type of college receiving low scores was found in a sector (e.g., public two-year colleges that are traditionally black never received grades of D or E). The validated indicators in each sector have been ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (the same order as in Table 7). The body of the table indicates the results of t-tests between particular kinds of colleges with grades of D or E and the remainder of the sector.

Liberal Arts Colleges II

Liberal arts colleges II with low viability grades appeared to experience the entire gamut of problems. However, low endowment per FTE student did not distinguish those with low scores quite as much as it did for some

Table 11

Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector = Private Four-Year Colleges (Total N=1,279)

Indicator[a]	Form[b] and Year	Direction of Difference	Type of College (N with "D" or "F" viability in 1978)										
			Liberal Arts II (N=128)	Teachers (NCHEMS) (N=6)	Traditionally Black Institutions (N=22)	Predominantly Black Enrollment (N=30)	Title III Institutions (N=78)	High Proportion of Students with BEOG Awards (N=37)	High BEOG Awards per FTE student (N=35)	Presbyterian (N=9)	Baptist (N=7)	Women's Colleges (N=22)	High Proportion of Women Students (N=38)
Mean salary of full-time faculty	Change 75-78	Lower	***	n.s.	*	***	***	***	***	n.s.	n.s.	**	*
Full-time equivalent (FTE) students	Static 1978	Lower	***	n.s.	n.s.	**	***	***	***	***	n.s.	***	***
Full-time faculty members	Static 1978	Lower	***	n.s.	n.s.	n.s.	***	**	*	***	n.s.	***	***
Mean salary of full-time faculty	Static 1978	Lower	***	n.s.	***	***	***	***	***	n.s.	n.s.	**	***
Current fund balance + 20% endowment balance/educational and general (E&G) expenditures	Static 1978	Lower	***	n.s.	***	***	***	***	***	n.s.	**	***	***
Current fund balance/current fund expenditures (CFE)	Static 1978	Lower	***	n.s.	*	**	***	***	***	n.s.	*	***	***
Unrestricted current fund balance/CFE	Static 1978	Lower	***	*	**	***	***	***	***	n.s.	n.s.	***	***
FTE students	Change 75-78	Lower	***	n.s.	n.s.	n.s.	***	n.s.	n.s.	**	n.s.	*	**
Total net revenue/total revenue	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
FTE students/full-time faculty	Static 1978	Lower	***	n.s.	***	**	***	***	***	***	n.s.	*	**
Endowment market value/CFE	Static 1978	Lower	***	n.s.	***	***	***	***	***	n.s.	***	**	***

n.s. = not significant
* = probability = .01
** = probability ≤ .001
*** = probability ≤ .0001

[a] Indicators are ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (see Table 7).

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

Table 11 (continued)

Indicator[a]	Form[b] and Year	Direction of Difference	Type of College (N with "D" or "E" viability in 1978)										
			Liberal Arts II (N=128)	Teachers (NCHEMS) (N=6)	Traditionally Black Institutions (N=22)	Predominantly Black Enrollment (N=30)	Title III Institutions (N=78)	High Proportion of Students with BEOG Awards (N=37)	High BEOG Awards per FTE student (N=35)	Presbyterian (N=9)	Baptist (N=7)	Women's Colleges (N=22)	High Proportion of Women Students (N=38)
Debt on plant/current fund revenues (CFR)	Static 1978	Higher	***	n.s.	*	***	***	***	***	**	n.s.	***	***
Plant debt/plant assets	Static 1978	Higher	***	n.s.	***	***	***	***	***	n.s.	**	*	**
Payments on plant debt/ principal owed	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Net change in all funds/ FTE student	Static 1978	Lower	***	**	***	*	***	***	***	n.s.	n.s.	***	***
Endowment income/CFR	Static 1978	Lower	***	n.s.	***	***	***	***	***	n.s.	**	*	***
Endowment market value/ FTE student	Static 1978	Lower	**	**	*	***	**	**	**	n.s.	***	**	**
Net change in current funds/CFR	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Tuition rate for undergraduates	Change 75-78	Lower	***	n.s.	***	***	**	***	***	n.s.	n.s.	n.s.	n.s.
Unrestricted scholarships/ FTE student	Change 75-77	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Instructional expenditures/ E&G expenditures	Static 1978	Lower	***	n.s.	*	***	***	**	***	*	n.s.	*	n.s.
Instructional expenditures/ CFE	Static 1978	Lower	***	n.s.	**	***	***	**	***	*	n.s.	***	n.s.
Current fund balance/CFE	Change 75-78	Lower	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .001

[a] Indicators are ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (see Table 7).

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

Table 11 (continued)

Indicator[a]	Form[b] and Year	Direction of Difference	Type of College (N with "D" or "E" viability in 1978)										
			Liberal Arts II (N=128)	Teachers (NCHEMS) (N=6)	Traditionally Black Institutions (N=22)	Predominantly Black Enrollment (N=30)	Title III Institutions (N=78)	High Proportion of Students with BEOG Awards (N=37)	High BEOG Awards per FTE student (N=35)	Presbyterian (N=9)	Baptist (N=7)	Women's Colleges (N=22)	High Proportion of Women Students (N=38)
Current fund balance + 20% endowment balance/E&G expenditures	Change 75-78	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
E&G expenditures/FTE student	Static 1978	Higher	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Interest payments on debt/CFE	Static 1978	Higher	***	n.s.	n.s.	n.s.	*	n.s.	n.s.	n.s.	n.s.	*	*
Unrestricted scholarships/ CFE	Change 75-77	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
CFE/FTE student	Static 1978	Higher	*	n.s.	n.s.	n.s.	*	*	n.s.	n.s.	n.s.	n.s.	n.s.
Library expenditures/E&G expenditures	Static 1978	Lower	***	n.s.	**	**	***	***	**	*	n.s.	n.s.	n.s.
CFR/full-time faculty	Static 1978	Lower	***	n.s.	n.s.	n.s.	***	*	*	***	n.s.	n.s.	*
Room charges	Change 75-78	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .001

[a] Indicators are ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (see Table 7).

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

Table 12

Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector = Private Two-Year Colleges (Total N=230)

Indicator[a]	Form[b] and Year	Direction of Difference	Type of College (N with "D" or "F" viability in 1978)						
			Two-Year Vocational (N=15)	Predominantly Black Enrollment (N=3)	Title III Institutions (N=6)	High Proportion of Students with BEOG Awards (N=5)	High BEOG Awards per FTE student (N=5)	Women's Colleges (N=5)	High Proportion of Women Students (N=13)
Current fund balance/current fund expenditures (CFE)	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Unrestricted current fund balance/CFE	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Current fund balance + 20% endowment balance/educational and general (E&G) expenditures	Static 1978	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Mean salary of full-time faculty	Change 75-78	Lower	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Full-time faculty members	Change 76-78	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	*
E&G expenditures/full-time equivalent (FTE) student	Static 1978	Higher	n.s.	n.s.	n.s.	*	*	n.s.	n.s.
FTE students	Change 75-78	Lower	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
FTE students	Static 1978	Lower	n.s.	n.s.	n.s.	**	**	n.s.	n.s.
Unrestricted current fund revenues/FTE student	Static 1978	Higher	n.s.	n.s.	**	n.s.	n.s.	*	n.s.
Full-time faculty members	Static 1978	Lower	n.s.	**	n.s.	*	*	n.s.	n.s.
CFE/FTE student	Static 1978	Higher	n.s.	n.s.	*	**	**	n.s.	n.s.
CFE/FTE student	Change 75-78	Higher	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Tuition and fee revenues/FTE student	Change 75-78	Higher	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Net tuition revenues/FTE student	Change 75-78	Higher	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Tuition rate	Static 1977	Higher	***	n.s.	n.s.	n.s.	n.s.	*	***

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

[a] Indicators are ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (see Table 7).

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

Table 13

Previously Validated Indicators That Distinguish Particular Types of Colleges with Low Viability Scores in 1978 from the Rest of the Sector: Sector = Public Two-Year Colleges (Total N=630)

Indicator[a]	Form[b] and Year	Direction of Difference	Type of College (N with "D" or "E" viability in 1978)				
			Two-Year Vocational (N=56)	Predominantly Black Enrollment (N=22)	Title III Institutions (N=43)	High Proportion of Students with BEOG Awards (N=8)	High BEOG Awards per FTE student (N=5)
Full-time equivalent (FTE) students	Static 1978	Lower	***	n.s.	***	n.s.	n.s.
Interest payments on debt/ current fund expenditures	Static 1978	Lower	***	*	**	n.s.	n.s.
Full-time faculty members	Static 1978	Lower	***	n.s.	***	n.s.	n.s.
Plant debt/plant assets	Static 1978	Lower	**	n.s.	n.s.	n.s.	n.s.
Mean salary of full-time faculty	Change 75-78	Lower	***	***	***	n.s.	n.s.
Debt on plant/current fund revenues (CFR)	Static 1978	Lower	***	*	*	n.s.	n.s.
Payments on plant debt/ principal owed	Static 1977	Lower	n.s.	***	n.s.	n.s.	n.s.
FTE students/full-time faculty	Static 1977	Lower	***	n.s.	***	n.s.	n.s.
Debt on plant/CFR	Change 75-78	Higher	***	n.s.	n.s.	**	n.s.
Plant debt/plant assets	Change 75-78	Higher	***	n.s.	n.s.	*	n.s.
Research expenditures/ full-time faculty	Static 1978	Lower	n.s.	*	n.s.	n.s.	n.s.
CFR/full-time faculty	Static 1978	Lower	***	*	**	n.s.	n.s.
Room charges	Static 1978	Higher	n.s.	n.s.	n.s.	n.s.	n.s.
Net auxiliary revenue/ auxiliary revenue	Static 1977	Lower	*	n.s.	n.s.	n.s.	n.s.
Mean salary of full-time faculty	Static 1978	Lower	***	n.s.	***	n.s.	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

[a] Indicators are ordered from those having the strongest relation to distress in the entire sector to those having the weakest relation to distress (see Table 7).

[b] The form of an indicator can be either static (based on data from a single year) or change (based on the change in the indicator's value over time).

other types of private four-year colleges (e.g., Baptist colleges and colleges with predominantly black enrollment). More so than other colleges with low scores, liberal arts colleges in distress were distinctive for having a high proportion of their current fund expenditures go for interest payments on debt, a low proportion of their E&G expenditures go to their libraries, and low revenues per full-time faculty member.

Teachers Colleges

Few teachers colleges (as identified by the NCHEMS classification code) received scores on the summary distress measure, and therefore the t-tests summarized in Table 11 did not identify many ways in which teachers colleges were distinctive when they received low scores. The problems that do show up all relate to low (or negative) fund balances: negative unrestricted current fund balance, low endowment per student, and a decrease during the year in the sum of all current funds.

Two-Year Vocational Colleges

Private vocational colleges in distress tended to have unusually high tuition rates and to have lowered their faculty salaries (in constant dollars) over the preceding few years. Public vocational colleges in distress were distinctive for having almost no plant debt (an inability to obtain needed loans?), low revenues per full-time faculty member, low and decreasing faculty salaries, low enrollments, and few students per full-time faculty member.

Traditionally Black Institutions and Colleges with Predominantly Black Enrollment

Private, four-year, traditionally black institutions (TBIs) and predominantly black institutions (PBIs) showed similar patterns of indicator values when they received low viability scores. Unlike most private four-year colleges with low scores, however, TBIs were not distinctively small

and were less extreme in their lower current fund balances, instructional expenditures, and faculty salary increases and in their higher level of debt. Private four-year PBIs with low summary scores tended to have little endowment per student and to have especially low instructional expenditures compared with the levels of their other expenditures.

There were only three private two-year PBIs with low scores, but they were distinctive for having few full-time faculty members. Public two-year PBIs with low scores were not especially small, nor did they pay their faculty much less than the norm for the rest of the sector, but their faculty salaries in constant dollars had dropped significantly over the previous few years, they had especially low research expenditures, and they were not paying off much of the principal of their debt.

Women's Colleges and Colleges with Predominantly Female Enrollment

Private four-year colleges in distress that either exclusively or primarily (75% or more) served women tended to be especially small and have decreasing enrollments. Their debt tended to be large compared with their revenues and expenditures, but less so compared with their plant assets. Compared with other colleges with low scores in the sector, colleges serving women were not as distinctive for having lowered faculty salaries or lowered their undergraduate tuition rate (in constant dollars). Compared with colleges in distress with a high proportion of women students, exclusively women's colleges in distress tended to have more endowment but to devote a smaller proportion of their expenditures to instruction.

Private two-year women's colleges with low viability scores tended to have high tuition rates and high unrestricted current fund revenues per FTE student (probably due to the high tuition rates). Private two-year colleges with low scores that served predominantly women tended to have very high tuition rates and to be decreasing the number of their full-time faculty members. No public two-year college in distress served women exclusively or predominantly.

Presbyterian and Baptist Colleges

Presbyterian colleges with viability grades of D or E tended to be especially small, to be losing enrollments, to have few students per faculty member, to allot a low proportion of their expenditures for instruction, and to have a high level of debt compared to their revenues. Baptist colleges with low summary scores, on the other hand, were distinguished by having little endowment, negative current fund balances, and a great deal of debt for the amount of their plant assets.

Title III Institutions and Colleges with Students Supported by BEOG Awards

Among private four-year colleges, Title III institutions and colleges with high proportions or high levels of BEOG awards among their students all had similar patterns of indicator values when they received low scores. All these colleges tended to be small and to have negative current fund balances, high expenditures per student, and low current fund revenues per full-time faculty member. The Title III institutions did differ from the BEOG-supported colleges by having fewer full-time faculty members, decreasing enrollments, and less revenue per faculty member.

Among private two-year colleges with low viability scores, Title III institutions were distinctive by having high current fund revenues and expenditures per FTE student; private two-year colleges serving lower income students were distinctive for their small size. The public Title III institutions tended to be small, to have few FTE students per full-time faculty member, and to pay their faculty less than the norm for the sector. Few public two-year colleges with scores of D or E were serving lower income students. Their only distinguishing characteristic was increasing their level of debt during the previous few years.

FUTURE RESEARCH

There is no ideal stopping point for a research project like this one. Each analysis and discovery raises further questions, suggests further analyses to better delineate and understand the findings, and leads to obvious next steps. We have been able to (1) identify colleges in distress based on several objective criteria, (2) test the theories and hunches of other researchers concerning which measures are indicative of institutional well-being, (3) develop a summary index of viability that accurately identifies colleges in distress, (4) determine which kinds of colleges frequently appear to be less viable, and (5) summarize the ways in which these colleges showed distinctive patterns of distress. Questions that have not been addressed under the current research contract, however, include the following.

- With what accuracy could the validated indicators predict the likelihood of future closures and of loan defaults by colleges that had not defaulted before?

- Given identical measures from year to year for the components of the summary index of distress (which we did not have), how have the distributions of distress scores for various kinds of colleges varied over time?

- Do women's colleges become coed in response to high levels of distress (e.g., declining enrollments)? Do colleges merge in response to distress? (Actual mergers would have to be distinguished from other causes of two or more FICE codes being combined into a single FICE code.)

- When colleges become more viable over one or two years, which actions did they take that were so effective?

- What are the numbers and characteristics of students who attend colleges with low viability scores? What is the quality of the education they receive?

- Finally, what governmental policies would most benefit types of colleges that are frequently not viable? In which circumstances is some federal or state action advisable to ensure equal access to varied, quality education?

These and other research questions will have to be left to future efforts that take up where this one left off.

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APPENDIX

Means on the 61 Indicators (in Both Static and Change Forms) for Colleges in Distress and Colleges Not Known to Be in Distress in 1978, Separately by Sector

The following 61 tables present evidence that can be used to validate (or, in many cases, invalidate) the indicators as being related to institutional distress. Each table summarizes the performance of one indicator, separately for the three educational sectors in which we identified sufficient numbers of colleges as being in distress: 4-year private colleges, 2-year private colleges, 2-year public colleges. Each line in a table summarizes the performance of a different form of the indicator (as indicated on the left). The lines above the dashed division in each sector are all measures based on data from the year in which the college was in distress (1978); these are tests for concurrent validity. The lines below the dashed division are measures based on data from the year before the college was identified as being in distress (1977); these are tests for predictive validity.

The first table (for Indicator 1, Tuition/Current Fund Revenues) is not particularly dramatic, but it can serve as an example of how to read these summaries. The first line indicates that the 72 4-year private colleges in distress received an average of 48.7% of their current fund revenues from tuition and fees and that the 791 other 4-year private colleges not known to be in distress received an average of 51.5% of their current fund revenues from tuition and fees. This difference is small, and the "n.s." in the right-hand column indicates that the t-test used to compare the means of these two groups of colleges found no statistically significant difference. All of the other differences for Indicator 1 between distressed colleges and colleges not known to be in distress are also small, and we can conclude from the column of n.s.'s that this indicator is not related to distress. Note that, as you would expect, private colleges receive about half of their current fund revenues from tuition, while public colleges receive only about one-seventh of their revenues from tuition on the average.

There are a number of ways in which an indicator could be related to distress, and these would show up as different patterns of asterisks (denoting levels of statistical significance) in the right-hand column. An indicator could be valid for private colleges only (asterisks in the top two-thirds of the table), for public colleges only (asterisks in the bottom third of the table), or for a single educational sector (e.g., 4-year private colleges). If only the static forms of the indicator are valid, then only the first or fifth line in a section of the table will be significant (see, for example, the table for Indicator 31--Interest Payments on Plant Debt/Current Fund Expenditures). If only change in an indicator's value is related to distress but not its absolute value, then the other lines will be significant, especially the fourth and seventh lines (see, for example, the section on 2-year private colleges in the table for Indicator 55).

Indicator 1: Tuition/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	48.7%	791	51.5%	-1.4	n.s.
Change:	1977-1978	72	-0.4%	782	+0.3%	-0.8	n.s.
	1976-1978	72	-1.0%	775	+0.3%	-1.4	n.s.
	1975-1978	71	+0.6%	768	+0.8%	-0.3	n.s.
Static:	1977	72	49.1%	782	51.4%	-1.2	n.s.
Change:	1976-1977	72	-0.7%	775	+0.0%	-1.1	n.s.
	1975-1977	71	+0.8%	768	+0.5%	0.3	n.s.
2-Year Private							
Static:	1978	17	47.8%	158	49.9%	-0.4	n.s.
Change:	1977-1978	17	-0.7%	149	+0.4%	-0.6	n.s.
	1976-1978	17	-0.4%	147	+0.4%	-0.4	n.s.
	1975-1978	17	+0.2%	144	+2.9%	-1.2	n.s.
Static:	1977	17	48.5%	149	49.2%	-0.1	n.s.
Change:	1976-1977	17	+0.2%	147	+0.3%	-0.0	n.s.
	1975-1977	17	+0.8%	144	+2.5%	-0.7	n.s.
2-Year Public							
Static:	1978	9	15.2%	599	14.5%	0.2	n.s.
Change:	1977-1978	9	+0.2%	591	-0.5%	0.7	n.s.
	1976-1978	9	+0.2%	579	-0.7%	0.5	n.s.
	1975-1978	9	+2.1%	569	+0.1%	1.0	n.s.
Static:	1977	9	15.0%	591	15.1%	-0.0	n.s.
Change:	1976-1977	9	+0.0%	579	-0.1%	0.2	n.s.
	1975-1977	9	+1.9%	569	+0.7%	1.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 2: Endowment Income/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	1.7%	791	3.4%	-4.4	***
Change:	1977-1978	72	-0.0%	782	-0.1%	0.1	n.s.
	1976-1978	72	+0.0%	775	+0.1%	-0.4	n.s.
	1975-1978	72	-0.8%	768	-0.2%	-0.8	n.s.
Static:	1977	72	1.8%	782	3.5%	-4.4	***
Change:	1976-1977	72	+0.1%	775	+0.2%	-0.4	n.s.
	1975-1977	72	-0.7%	768	-0.1%	-0.8	n.s.
2-Year Private							
Static:	1978	17	1.0%	158	1.8%	-0.8	n.s.
Change:	1977-1978	17	+0.1%	149	-0.4%	2.5	n.s.
	1976-1978	17	+0.2%	146	-0.1%	1.[illegible]	n.s.
	1975-1978	17	-0.0%	144	-0.5%	1.[illegible]	n.s.
Static:	1977	17	0.9%	149	2.2%	-1.6	n.s.
Change:	1976-1977	17	+0.1%	146	+0.2%	-0.6	n.s.
	1975-1977	17	-0.1%	144	-0.1%	-0.0	n.s.
2-Year Public							
Static:	1978	9	0.0%	600	0.0%	0.2	n.s.
Change:	1977-1978	9	+0.0%	592	-0.0%	1.4	n.s.
	1976-1978	9	+0.0%	582	+0.0%	-0.5	n.s.
	1975-1978	9	+0.0%	573	-0.0%	1.4	n.s.
Static:	1977	9	0.0%	592	0.0%	-0.1	n.s.
Change:	1976-1977	9	+0.0%	582	+0.0%	-2.0	n.s.
	1975-1977	9	+0.0%	573	-0.0%	0.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 3: Federal Appropriations/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	1.0%	791	0.6%	0.7	n.s.
Change:	1977-1978	72	+0.6%	782	-0.1%	1.0	n.s.
	1976-1978	72	+0.5%	775	-0.1%	1.0	n.s.
	1975-1978	72	-0.7%	768	-0.1%	-0.5	n.s.
Static:	1977	72	0.4%	782	0.7%	-0.9	n.s.
Change:	1976-1977	72	-0.1%	775	-0.1%	-0.2	n.s.
	1975-1977	72	-1.3%	768	-0.1%	-1.5	n.s.
2-Year Private							
Static:	1978	17	2.5%	158	0.4%	1.6	n.s.
Change:	1977-1978	17	+1.5%	149	-0.1%	2.1	n.s.
	1976-1978	17	+0.6%	147	-0.3%	0.8	n.s.
	1975-1978	17	+1.3%	144	-0.5%	1.6	n.s.
Static:	1977	17	1.0%	149	0.5%	0.5	n.s.
Change:	1976-1977	17	-0.9%	147	-0.2%	-0.8	n.s.
	1975-1977	17	-0.2%	144	-0.3%	0.2	n.s.
2-Year Public							
Static:	1978	9	0.8%	600	1.8%	-1.7	n.s.
Change:	1977-1978	9	-1.3%	592	-0.3%	-0.8	n.s.
	1976-1978	9	-0.6%	582	-0.6%	0.0	n.s.
	1975-1978	9	-1.6%	573	-1.0%	-0.4	n.s.
Static:	1977	9	2.1%	592	2.1%	0.0	n.s.
Change:	1976-1977	9	+0.7%	582	-0.3%	2.6	n.s.
	1975-1977	9	-0.3%	573	-0.7%	0.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 4: State Appropriations/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	0.5%	791	0.7%	-1.3	n.s.
Change:	1977-1978	72	+0.0%	782	-0.1%	0.9	n.s.
	1976-1978	72	+0.1%	775	-0.0%	0.8	n.s.
	1975-1978	72	+0.1%	768	-0.0%	1.6	n.s.
Static:	1977	72	0.4%	782	0.7%	-1.9	n.s.
Change:	1976-1977	72	+0.0%	775	+0.0%	0.0	n.s.
	1975-1977	72	+0.1%	768	+0.0%	0.8	n.s.
2-Year Private							
Static:	1978	17	0.4%	158	1.3%	-1.8	n.s.
Change:	1977-1978	17	+0.2%	149	+0.1%	0.2	n.s.
	1976-1978	17	+0.0%	146	+0.1%	-0.4	n.s.
	1975-1978	17	-0.2%	144	+0.2%	-1.3	n.s.
Static:	1977	17	0.2%	149	0.8%	-1.4	n.s.
Change:	1976-1977	17	-0.2%	146	-0.0%	-0.6	n.s.
	1975-1977	17	-0.4%	144	+0.0%	-1.4	n.s.
2-Year Public							
Static:	1978	9	56.9%	600	47.5%	1.7	n.s.
Change:	1977-1978	9	-1.2%	592	+0.6%	-0.8	n.s.
	1976-1978	9	-2.4%	582	+1.3%	-1.3	n.s.
	1975-1978	9	-9.4%	573	+0.6%	-2.1	n.s.
Static:	1977	9	58.1%	592	46.7%	2.0	n.s.
Change:	1976-1977	9	-1.2%	582	+0.7%	-0.7	n.s.
	1975-1977	9	-8.2%	573	+0.1%	-2.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 5: Local Appropriations/Current Fund Revenues

College Sector and Form of Indicator	Distressed in 1978		Not Distressed in 1978		t-value	Prob.
	N	Mean	N	Mean		
4-Year Private						
Static: 1978	72	0.0%	791	0.0%	0.8	n.s.
Change: 1977-1978	72	+0.0%	782	-0.0%	1.4	n.s.
1976-1978	72	+0.0%	775	-0.0%	1.8	n.s.
1975-1978	72	+0.0%	768	-0.0%	1.5	n.s.
Static: 1977	72	0.0%	782	0.0%	-1.2	n.s.
Change: 1976-1977	72	+0.0%	775	-0.0%	1.1	n.s.
1975-1977	72	+0.0%	768	-0.0%	1.2	n.s.
2-Year Private						
Static: 1978	17	0.0%	158	0.2%	-1.1	n.s.
Change: 1977-1978	17	+0.0%	149	+0.0%	-0.9	n.s.
1976-1978	17	+0.0%	146	+0.0%	-0.0	n.s.
1975-1978	17	+0.0%	144	-0.0%	0.4	n.s.
Static: 1977	17	0.0%	149	0.2%	-1.0	n.s.
Change: 1976-1977	17	+0.0%	146	-0.0%	1.0	n.s.
1975-1977	17	+0.0%	144	-0.0%	1.0	n.s.
2-Year Public						
Static: 1978	9	10.9%	601	19.0%	-1.3	n.s.
Change: 1977-1978	9	+0.9%	593	-0.2%	2.3	n.s.
1976-1978	9	+1.3%	583	+0.5%	0.7	n.s.
1975-1978	9	+3.9%	574	+1.0%	0.7	n.s.
Static: 1977	9	10.1%	593	19.3%	-1.5	n.s.
Change: 1976-1977	9	+0.5%	583	+0.6%	-0.2	n.s.
1975-1977	9	+3.0%	574	+1.0%	0.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 6: Government Appropriations/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	1.5%	791	1.3%	0.4	n.s.
Change:	1977-1978	72	+0.6%	782	-0.1%	1.3	n.s.
	1976-1978	72	+0.5%	775	-0.2%	1.1	n.s.
	1975-1978	72	-0.6%	768	-0.2%	-0.4	n.s.
Static:	1977	72	0.8%	782	1.4%	-1.5	n.s.
Change:	1976-1977	72	-0.1%	775	-0.0%	-0.2	n.s.
	1975-1977	72	-1.2%	768	-0.0%	-1.4	n.s.
2-Year Private							
Static:	1978	17	3.0%	158	1.8%	0.7	n.s.
Change:	1977-1978	17	+1.7%	149	+0.0%	2.1	n.s.
	1976-1978	17	+0.6%	146	-0.2%	0.8	n.s.
	1975-1978	17	+1.1%	144	-0.3%	1.2	n.s.
Static:	1977	17	1.3%	149	1.5%	-0.1	n.s.
Change:	1976-1977	17	-1.1%	146	-0.2%	-0.8	n.s.
	1975-1977	17	-0.6%	144	-0.4%	-0.6	n.s.
2-Year Public							
Static:	1978	9	68.7%	600	68.2%	0.1	n.s.
Change:	1977-1978	9	-1.6%	592	+0.2%	-0.8	n.s.
	1976-1978	9	-1.7%	582	+1.1%	-0.9	n.s.
	1975-1978	9	-7.1%	573	+0.5%	-1.9	n.s.
Static:	1977	9	70.3%	592	68.0%	0.5	n.s.
Change:	1976-1977	9	-0.0%	582	+1.0%	-0.4	n.s.
	1975-1977	9	-5.4%	573	+0.3%	-1.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 7: Government Contract Revenues/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	9.0%	791	6.9%	2.0	n.s.
Change:	1977-1978	72	-0.2%	782	-0.0%	-0.2	n.s.
	1976-1978	72	+0.4%	775	+0.2%	0.3	n.s.
	1975-1978	72	+1.8%	768	+1.0%	1.0	n.s.
Static:	1977	72	9.1%	782	6.9%	2.1	n.s.
Change:	1976-1977	72	+0.5%	775	+0.2%	0.6	n.s.
	1975-1977	72	+1.9%	768	+1.1%	1.6	n.s.
2-Year Private							
Static:	1978	17	3.8%	158	6.9%	-2.0	n.s.
Change:	1977-1978	17	-0.3%	149	+1.0%	-1.6	n.s.
	1976-1978	17	+1.0%	146	+0.7%	0.2	n.s.
	1975-1978	17	+0.9%	144	+0.0%	0.4	n.s.
Static:	1977	17	4.2%	149	6.1%	-1.2	n.s.
Change:	1976-1977	17	+1.3%	146	-0.7%	1.4	n.s.
	1975-1977	17	+1.2%	144	-0.9%	1.3	n.s.
2-Year Public							
Static:	1978	9	9.1%	600	7.8%	0.5	n.s.
Change:	1977-1978	9	+1.1%	592	+0.3%	0.7	n.s.
	1976-1978	9	+0.7%	582	-0.2%	0.3	n.s.
	1975-1978	9	+4.8%	573	-0.6%	1.4	n.s.
Static:	1977	9	8.0%	592	7.4%	0.2	n.s.
Change:	1976-1977	9	-0.4%	582	-0.5%	0.1	n.s.
	1975-1977	9	+3.7%	573	-0.9%	1.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 8: Auxiliary Enterprise Revenues/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	18.7%	791	19.4%	-0.7	n.s.
Change:	1977-1978	72	-0.3%	782	-0.1%	-0.5	n.s.
	1976-1978	72	-0.7%	775	-0.2%	-0.8	n.s.
	1975-1978	72	-1.0%	768	-0.5%	-0.5	n.s.
Static:	1977	72	19.0%	782	19.6%	-0.6	n.s.
Change:	1976-1977	72	-0.4%	775	-0.1%	-0.5	n.s.
	1975-1977	72	-0.7%	768	-0.4%	-0.4	n.s.
2-Year Private							
Static:	1978	17	16.0%	158	17.6%	-0.5	n.s.
Change:	1977-1978	17	-0.4%	149	-0.5%	0.1	n.s.
	1976-1978	17	-3.5%	146	-0.4%	-1.8	n.s.
	1975-1978	17	-4.6%	144	-1.0%	-1.7	n.s.
Static:	1977	17	16.4%	149	18.3%	-0.6	n.s.
Change:	1976-1977	17	-3.1%	146	+0.1%	-1.6	n.s.
	1975-1977	17	-4.3%	144	-0.6%	-1.5	n.s.
2-Year Public							
Static:	1978	9	5.5%	600	6.8%	-0.7	n.s.
Change:	1977-1978	9	+1.6%	592	+0.0%	1.4	n.s.
	1976-1978	9	+0.4%	582	-0.0%	0.4	n.s.
	1975-1978	9	-0.1%	573	+0.2%	-0.3	n.s.
Static:	1977	9	3.9%	592	6.8%	-1.6	n.s.
Change:	1976-1977	9	-1.2%	582	-0.1%	-1.5	n.s.
	1975-1977	9	-1.7%	573	+0.2%	-1.8	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 9: Unrestricted Gifts/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	13.7%	791	10.9%	2.0	n.s.
Change:	1977-1978	72	+0.1%	782	-0.3%	0.6	n.s.
	1976-1978	72	+0.3%	775	-0.4%	1.0	n.s.
	1975-1978	72	-1.1%	768	-0.9%	-0.1	n.s.
Static:	1977	72	13.5%	782	10.9%	2.0	n.s.
Change:	1976-1977	72	+0.2%	775	-0.1%	0.4	n.s.
	1975-1977	72	-1.2%	768	-0.6%	-0.4	n.s.
2-Year Private							
Static:	1978	17	20.8%	158	14.6%	1.0	n.s.
Change:	1977-1978	17	+4.5%	149	-0.6%	0.9	n.s.
	1976-1978	17	+9.6%	147	-0.7%	1.5	n.s.
	1975-1978	17	+5.9%	144	-0.9%	1.2	n.s.
Static:	1977	17	16.3%	149	15.4%	0.2	n.s.
Change:	1976-1977	17	+5.1%	147	-0.1%	1.1	n.s.
	1975-1977	17	+1.4%	144	-0.1%	[illegible]	n.s.
2-Year Public							
Static:	1978	9	0.1%	600	0.1%	-0.7	n.s.
Change:	1977-1978	9	+0.1%	592	+0.0%	0.6	n.s.
	1976-1978	9	+0.1%	582	+0.0%	0.8	n.s.
	1975-1978	9	+0.1%	573	+0.0%	0.5	n.s.
Static:	1977	9	0.0%	592	0.1%	-4.1	***
Change:	1976-1977	9	+0.0%	582	-0.0%	0.9	n.s.
	1975-1977	9	-0.0%	573	-0.0%	-0.3	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 10: Restricted Current Fund Revenues/Total Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	10.2%	791	9.8%	0.3	n.s.
Change:	1977-1978	72	-0.5%	782	+0.2%	-1.1	n.s.
	1976-1978	72	-0.0%	775	+0.3%	-0.4	n.s.
	1975-1978	72	+0.9%	768	+1.1%	-0.3	n.s.
Static:	1977	72	10.7%	782	9.7%	0.9	n.s.
Change:	1976-1977	72	+0.5%	775	+0.1%	0.8	n.s.
	1975-1977	72	+1.3%	768	+0.9%	0.5	n.s.
2-Year Private							
Static:	1978	17	5.8%	158	9.0%	-1.7	n.s.
Change:	1977-1978	17	-4.8%	149	+1.3%	-1.1	n.s.
	1976-1978	17	-3.2%	146	+1.5%	-0.8	n.s.
	1975-1978	17	-2.1%	144	+0.1%	-0.4	n.s.
Static:	1977	17	10.6%	149	7.9%	0.5	n.s.
Change:	1976-1977	17	+1.5%	146	-0.1%	0.9	n.s.
	1975-1977	17	+2.7%	144	-1.1%	1.9	n.s.
2-Year Public							
Static:	1978	9	8.1%	600	7.3%	0.4	n.s.
Change:	1977-1978	9	+0.6%	592	+0.2%	0.7	n.s.
	1976-1978	9	-0.3%	582	-0.2%	-0.1	n.s.
	1975-1978	9	+3.5%	573	-0.0%	1.2	n.s.
Static:	1977	9	7.5%	592	7.1%	0.2	n.s.
Change:	1976-1977	9	-1.0%	582	-0.4%	-0.4	n.s.
	1975-1977	9	+2.9%	573	-0.3%	1.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 11: Tuition and Fees Revenues/FTE Student

College Sector and Form of Indicator	Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private						
Static: 1978	72	$2,512	790	$2,491	0.2	n.s.
Change: 1977-1978	72	+$44	780	+$24	0.4	n.s.
1976-1978	72	-$28	775	+$53	-1.1	n.s.
1975-1978	71	+$53	768	+$94	-0.7	n.s.
Static: 1977	72	$2,467	781	$2,476	-0.1	n.s.
Change: 1976-1977	72	-$73	775	+$27	-1.2	n.s.
1975-1977	71	+$9	767	+$69	-0.9	n.s.
2-Year Private						
Static: 1978	17	$2,097	158	$1,594	2.5	n.s.
Change: 1977-1978	17	+$140	149	+$11	1.5	n.s.
1976-1978	17	+$142	147	+$16	1.6	n.s.
1975-1978	17	+$316	144	-$4	2.8	*
Static: 1977	17	$1,957	149	$1,592	1.8	n.s.
Change: 1976-1977	17	+$1	147	+$12	-0.2	n.s.
1975-1977	17	+$176	144	-$9	1.6	n.s.
2-Year Public						
Static: 1978	9	$437	599	$378	0.8	n.s.
Change: 1977-1978	9	+$5	590	-$4	0.4	n.s.
1976-1978	9	+$53	579	+$13	1.1	n.s.
1975-1978	9	+$69	569	-$0	1.5	n.s.
Static: 1977	9	$432	590	$383	0.6	n.s.
Change: 1976-1977	9	+$48	578	+$18	0.9	n.s.
1975-1977	9	+$64	568	+$4	1.3	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 12: Net Tuition*/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$2,225	790	$2,265	-0.4	n.s.
Change:	1977-1978	72	+$13	780	+$20	-0.1	n.s.
	1976-1978	72	-$13	775	+$52	-0.9	n.s.
	1975-1978	71	+$104	768	+$82	0.4	n.s.
Static:	1977	72	$2,212	781	$2,252	-0.4	n.s.
Change:	1976-1977	72	-$26	775	+$30	-0.7	n.s.
	1975-1977	71	+$93	767	+$61	0.5	n.s.
2-Year Private							
Static:	1978	17	$1,922	157	$1,512	2.1	n.s.
Change:	1977-1978	17	+$118	148	+$12	1.7	n.s.
	1976-1978	17	+$130	146	+$12	1.5	n.s.
	1975-1978	17	+$316	143	+$14	2.8	*
Static:	1977	17	$1,804	148	$1,508	1.4	n.s.
Change:	1976-1977	17	+$12	146	+$12	0.0	n.s.
	1975-1977	17	+$198	143	+$13	1.6	n.s.
2-Year Public							
Static:	1978	9	$421	599	$363	0.8	n.s.
Change:	1977-1978	9	+$11	590	-$4	0.4	n.s.
	1976-1978	9	+$62	579	+$12	1.4	n.s.
	1975-1978	9	+$69	569	+$5	1.3	n.s.
Static:	1977	9	$411	590	$368	0.6	n.s.
Change:	1976-1977	9	+$51	578	+$16	1.0	n.s.
	1975-1977	9	+$58	568	+$9	1.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

*Net tuition is revenue from tuition and fees minus expenditures for scholarships and fellowships.

Indicator 13: Government Appropriations/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$88	790	$82	0.2	n.s.
Change:	1977-1978	72	+$29	780	-$5	0.8	n.s.
	1976-1978	72	+$22	775	-$7	0.7	n.s.
	1975-1978	72	-$184	768	-$13	-0.8	n.s.
Static:	1977	72	$60	781	$87	-0.7	n.s.
Change:	1976-1977	72	-$7	775	-$3	-0.4	n.s.
	1975-1977	72	-$213	767	-$9	-1.1	n.s.
2-Year Private							
Static:	1978	17	$149	158	$53	1.5	n.s.
Change:	1977-1978	17	+$101	149	-$2	2.2	n.s.
	1976-1978	17	+$53	146	-$13	0.9	n.s.
	1975-1978	17	+$81	144	-$28	1.8	n.s.
Static:	1977	17	$48	149	$45	0.1	n.s.
Change:	1976-1977	17	-$48	146	-$11	-0.8	n.s.
	1975-1977	17	-$20	144	-$26	0.3	n.s.
2-Year Public							
Static:	1978	9	$2,084	600	$1,855	1.0	n.s.
Change:	1977-1978	9	+$32	591	+$53	-0.1	n.s.
	1976-1978	9	+$288	582	+$190	0.6	n.s.
	1975-1978	9	-$330	573	-$14	-0.9	n.s.
Static:	1977	9	$2,052	591	$1,799	1.2	n.s.
Change:	1976-1977	9	+$256	581	+$135	0.9	n.s.
	1975-1977	9	-$362	572	-$71	-1.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 14: Unrestricted Current Fund Revenues/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$4,862	790	$4,608	1.2	n.s.
Change:	1977-1978	72	+$147	780	+$24	1.2	n.s.
	1976-1978	72	+$96	774	+$71	0.2	n.s.
	1975-1978	72	-$191	768	+$32	-0.9	n.s.
Static:	1977	72	$4,715	781	$4,579	0.6	n.s.
Change:	1976-1977	72	-$51	774	+$44	-0.7	n.s.
	1975-1977	72	-$337	767	+$11	-1.6	n.s.
2-Year Private							
Static:	1978	17	$4,369	158	$3,222	3.1	*
Change:	1977-1978	17	+$588	149	-$47	2.0	n.s.
	1976-1978	17	+$459	146	-$47	1.4	n.s.
	1975-1978	17	+$694	144	-$238	2.6	n.s.
Static:	1977	17	$3,780	149	$3,291	1.2	n.s.
Change:	1976-1977	17	-$129	146	+$3	-0.8	n.s.
	1975-1977	17	+$106	144	-$177	1.1	n.s.
2-Year Public							
Static:	1978	9	$2,749	600	$2,513	1.0	n.s.
Change:	1977-1978	9	+$47	591	+$65	-0.1	n.s.
	1976-1978	9	+$407	582	+$226	1.2	n.s.
	1975-1978	9	-$214	573	-$22	-0.5	n.s.
Static:	1977	9	$2,702	591	$2,445	1.1	n.s.
Change:	1976-1977	9	+$360	581	+$158	1.4	n.s.
	1975-1977	9	-$261	572	-$92	-0.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 15: Restricted Current Fund Revenues/Full-Time Faculty Member

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	$7,403	775	$6,971	0.4	n.s.
Change:	1977-1978	71	-$480	764	-$175	-0.6	n.s.
	1976-1978	69	-$193	741	+$127	-0.4	n.s.
	1975-1978	71	+$219	744	+$1,237	-1.0	n.s.
Static:	1977	71	$7,883	767	$7,219	0.7	n.s.
Change:	1976-1977	69	+$252	740	+$334	-0.1	n.s.
	1975-1977	71	+$699	744	+$1,435	-0.8	n.s.
2-Year Private							
Static:	1978	16	$5,441	148	$6,092	-0.2	n.s.
Change:	1977-1978	16	+$976	138	+$1,010	-0.0	n.s.
	1976-1978	15	+$3,006	131	+$908	0.9	n.s.
	1975-1978	16	+$2,822	129	-$2,193	1.7	n.s.
Static:	1977	16	$4,465	138	$5,369	-0.3	n.s.
Change:	1976-1977	15	+$1,873	130	+$102	1.0	n.s.
	1975-1977	16	+$1,846	129	-$2,658	1.6	n.s.
2-Year Public							
Static:	1978	9	$4,715	597	$5,125	-0.2	n.s.
Change:	1977-1978	9	+$239	583	+$304	-0.2	n.s.
	1976-1978	9	-$860	568	-$114	-0.4	n.s.
	1975-1978	9	+$2,022	556	+$213	0.9	n.s.
Static:	1977	9	$4,477	584	$4,747	-0.2	n.s.
Change:	1976-1977	9	-$1,098	568	-$383	-0.5	n.s.
	1975-1977	9	+$1,783	556	-$69	0.9	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 16: Current Fund Revenues/Full-Time Faculty Member

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	$85,729	775	$97,878	-2.7	*
Change:	1977-1978	71	-$3,321	764	-$1,417	-0.7	n.s.
	1976-1978	69	-$5,409	740	+$644	-1.2	n.s.
	1975-1978	71	-$12,453	744	+$5,478	-2.5	n.s.
Static:	1977	71	$89,051	767	$99,752	-2.6	n.s.
Change:	1976-1977	69	-$2,899	739	+$1,362	-0.9	n.s.
	1975-1977	71	-$9,132	744	-$6,573	-2.3	n.s.
2-Year Private							
Static:	1978	16	$110,388	148	$90,903	1.4	n.s.
Change:	1977-1978	16	+$18,045	138	-$593	2.0	n.s.
	1976-1978	15	+$22,071	131	-$5,237	1.7	n.s.
	1975-1978	16	+$20,506	129	-$449	1.1	n.s.
Static:	1977	16	$92,344	138	$91,577	0.1	n.s.
Change:	1976-1977	15	+$592	130	-$3,266	0.3	n.s.
	1975-1977	16	+$2,462	129	+$1,309	0.1	n.s.
2-Year Public							
Static:	1978	9	$57,265	598	$71,771	-3.1	*
Change:	1977-1978	9	-$235	584	+$1,599	-0.9	n.s.
	1976-1978	9	-$4,278	568	-$1,873	-0.5	n.s.
	1975-1978	9	-$4,501	557	+$531	-0.5	n.s.
Static:	1977	9	$57,500	585	$68,811	-1.3	n.s.
Change:	1976-1977	9	-$4,043	568	-$3,405	-0.2	n.s.
	1975-1977	9	-$4,267	557	-$877	-0.4	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 17: Net Educational and General (E&G) Revenue/E&G Revenue

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-24.1%	791	-5.4%	-1.8	n.s.
Change:	1977-1978	72	-7.6%	782	-1.0%	-1.3	n.s.
	1976-1978	72	-9.7%	775	-1.2%	-1.4	n.s.
	1975-1978	72	-16.0%	768	+0.9%	-1.5	n.s.
Static:	1977	72	-16.5%	782	-4.3%	-2.0	n.s.
Change:	1976-1977	72	-2.1%	775	-0.2%	-1.0	n.s.
	1975-1977	72	-8.4%	768	+1.9%	-1.6	n.s.
2-Year Private							
Static:	1978	17	-12.9%	158	-8.1%	-0.8	n.s.
Change:	1977-1978	17	-2.1%	149	+1.1%	-0.6	n.s.
	1976-1978	17	+5.4%	146	-0.0%	0.9	n.s.
	1975-1978	17	-1.7%	144	+2.6%	-0.6	n.s.
Static:	1977	17	-10.9%	149	-8.6%	-0.3	n.s.
Change:	1976-1977	17	+7.4%	146	-1.1%	1.4	n.s.
	1975-1977	17	+0.4%	144	+2.8%	-0.4	n.s.
2-Year Public							
Static:	1978	9	8.3%	600	2.2%	2.0	n.s.
Change:	1977-1978	9	-2.4%	592	+0.7%	-0.6	n.s.
	1976-1978	9	-1.3%	582	-0.6%	-0.7	n.s.
	1975-1978	9	-2.6%	573	-0.3%	-0.6	n.s.
Static:	1977	9	10.7%	592	2.1%	2.2	n.s.
Change:	1976-1977	9	+1.1%	582	-0.6%	0.4	n.s.
	1975-1977	9	-0.2%	573	-0.4%	0.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 18: Net Auxiliary Revenue/Auxiliary Revenue

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	5.5%	785	19.3%	-1.5	n.s.
Change:	1977-1978	71	-5.7%	776	+1.6%	-0.9	n.s.
	1976-1978	71	+16.5%	770	+2.2%	0.5	n.s.
	1975-1978	69	+133.1%	760	+3.4%	1.0	n.s.
Static:	1977	71	11.1%	777	17.8%	-0.9	n.s.
Change:	1976-1977	71	+22.3%	771	+0.6%	0.8	n.s.
	1975-1977	69	+131.3%	760	+2.0%	1.0	n.s.
2-Year Private							
Static:	1978	15	4.3%	153	16.1%	-0.4	n.s.
Change:	1977-1978	15	+5.9%	142	-3.2%	0.7	n.s.
	1976-1978	15	-20.1%	139	+171.6%	-1.0	n.s.
	1975-1978	15	-24.7%	138	-16.0%	-0.3	n.s.
Static:	1977	15	-1.6%	143	18.5%	-0.7	n.s.
Change:	1976-1977	15	-26.0%	140	+172.9%	-1.1	n.s.
	1975-1977	15	-30.6%	137	-13.6%	-0.6	n.s.
2-Year Public							
Static:	1978	9	-14.8%	580	21.6%	-2.1	n.s.
Change:	1977-1978	8	+4.6%	564	-0.2%	0.2	n.s.
	1976-1978	8	+3.2%	557	+4.7%	-0.3	n.s.
	1975-1978	8	-7.2%	542	+0.5%	-1.1	n.s.
Static:	1977	8	-23.5%	566	21.1%	-2.6	*
Change:	1976-1977	7	-16.5%	553	+2.8%	-0.8	n.s.
	1975-1977	7	-25.9%	537	-0.1%	-0.8	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 19: Total Net Revenue/Total Revenue

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-7.2%	791	1.0%	-5.3	***
Change:	1977-1978	72	-1.9%	782	-0.3%	-1.5	n.s.
	1976-1978	72	-2.6%	775	-0.1%	-1.4	n.s.
	1975-1978	72	-3.2%	768	+1.3%	-1.9	n.s.
Static:	1977	72	-5.4%	782	1.4%	-4.8	***
Change:	1976-1977	72	-0.7%	775	+0.2%	-0.6	n.s.
	1975-1977	72	-1.3%	768	+1.5%	-1.3	n.s.
2-Year Private							
Static:	1978	17	-4.0%	158	0.8%	-1.4	n.s.
Change:	1977-1978	17	+0.0%	149	-0.9%	0.2	n.s.
	1976-1978	17	-0.5%	147	-1.7%	0.3	n.s.
	1975-1978	17	-2.9%	144	-0.3%	-0.5	n.s.
Static:	1977	17	-4.0%	149	2.0%	-2.0	n.s.
Change:	1976-1977	17	-0.5%	147	-0.7%	0.1	n.s.
	1975-1977	17	-2.9%	144	+0.8%	-0.7	n.s.
2-Year Public							
Static:	1978	9	8.0%	601	3.7%	1.6	n.s.
Change:	1977-1978	9	-1.7%	593	+0.0%	-0.5	n.s.
	1976-1978	9	-1.6%	583	-0.8%	-0.7	n.s.
	1975-1978	9	-3.1%	574	-0.6%	-0.8	n.s.
Static:	1977	9	9.8%	593	3.6%	1.8	n.s.
Change:	1976-1977	9	+0.1%	583	-0.8%	0.3	n.s.
	1975-1977	9	-1.3%	574	-0.7%	-0.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 20: Instructional Expenditures/Educational and General Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	33.0%	791	37.2%	-3.4	*
Change:	1977-1978	72	-0.9%	782	-0.2%	-1.0	n.s.
	1976-1978	72	-0.9%	774	-0.9%	0.0	n.s.
	1975-1978	72	-0.6%	767	-1.6%	0.9	n.s.
Static:	1977	72	33.9%	782	37.5%	-2.8	*
Change:	1976-1977	72	-0.0%	774	-0.6%	0.9	n.s.
	1975-1977	72	+0.3%	767	-1.3%	1.4	n.s.
2-Year Private							
Static:	1978	17	35.1%	158	34.3%	0.2	n.s.
Change:	1977-1978	17	+3.1%	149	-1.0%	1.2	n.s.
	1976-1978	17	+1.0%	147	-1.6%	1.2	n.s.
	1975-1978	17	-3.7%	144	-1.9%	-1.2	n.s.
Static:	1977	17	32.1%	149	35.3%	-1.0	n.s.
Change:	1976-1977	17	-2.0%	147	-0.6%	-0.7	n.s.
	1975-1977	17	-6.7%	144	-1.0%	-1.9	n.s.
2-Year Public							
Static:	1978	9	49.5%	601	51.0%	-0.5	n.s.
Change:	1977-1978	9	-0.5%	593	-0.3%	-0.2	n.s.
	1976-1978	9	-1.7%	583	-1.2%	-0.2	n.s.
	1975-1978	9	-7.1%	574	-1.6%	-2.1	n.s.
Static:	1977	9	50.1%	593	51.2%	-0.4	n.s.
Change:	1976-1977	9	-1.2%	583	-1.0%	-0.1	n.s.
	1975-1977	9	-6.6%	574	-1.4%	-2.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 21: Library Expenditures/Educational and General Expenditures

College Sector and Form of Indicator		Distressed in 1978		Not Distressed in 1978		t-value	Prob.
		N	Mean	N	Mean		
4-Year Private							
Static:	1978	72	3.4%	791	4.0%	-2.7	*
Change:	1977-1978	72	-0.3%	782	-0.1%	-1.3	n.s.
	1976-1978	72	-0.4%	776	-0.5%	0.6	n.s.
	1975-1978	71	-0.2%	768	-0.2%	0.2	n.s.
Static:	1977	72	3.7%	782	4.1%	-1.3	n.s.
Change:	1976-1977	72	-0.1%	776	-0.5%	1.4	n.s.
	1975-1977	71	+0.2%	768	-0.1%	1.3	n.s.
2-Year Private							
Static:	1978	17	4.2%	158	4.1%	0.1	n.s.
Change:	1977-1978	17	-0.3%	149	+0.2%	-1.1	n.s.
	1976-1978	17	-0.8%	147	-0.4%	-0.7	n.s.
	1975-1978	17	-1.0%	144	-0.1%	-1.6	n.s.
Static:	1977	17	4.4%	149	3.9%	0.5	n.s.
Change:	1976-1977	17	-0.5%	147	-0.5%	-0.0	n.s.
	1975-1977	17	-0.8%	144	-0.2%	-0.8	n.s.
2-Year Public							
Static:	1978	9	2.8%	601	3.8%	-1.6	n.s.
Change:	1977-1978	9	-0.3%	593	-0.1%	-0.9	n.s.
	1976-1978	9	-1.2%	583	-0.8%	-0.4	n.s.
	1975-1978	9	-0.7%	574	-0.1%	-0.8	n.s.
Static:	1977	9	3.0%	593	3.9%	-1.3	n.s.
Change:	1976-1977	9	-0.9%	583	-0.7%	-0.2	n.s.
	1975-1977	9	-0.4%	574	-0.1%	-0.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 22: Instructional Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	26.9%	791	30.2%	-3.4	**
Change:	1977-1978	72	-0.6%	782	-0.0%	-1.0	n.s.
	1976-1978	72	-0.8%	774	-0.5%	-0.4	n.s.
	1975-1978	72	-0.2%	767	-0.9%	0.9	n.s.
Static:	1977	72	27.5%	782	30.3%	2.5	n.s.
Change:	1976-1977	72	-0.1%	774	-0.4%	0.5	n.s.
	1975-1977	72	+0.5%	767	-0.9%	1.4	n.s.
2-Year Private							
Static:	1978	17	30.9%	158	29.0%	0.4	n.s.
Change:	1977-1978	17	+3.6%	149	-1.0%	1.4	n.s.
	1976-1978	17	+1.7%	147	-1.5%	1.2	n.s.
	1975-1978	17	-2.3%	144	-1.6%	-0.5	n.s.
Static:	1977	17	27.3%	149	29.9%	-0.8	n.s.
Change:	1976-1977	17	-1.9%	147	-0.5%	-0.8	n.s.
	1975-1977	17	-5.9%	144	-0.7%	-1.9	n.s.
2-Year Public							
Static:	1978	9	46.2%	601	47.2%	-0.4	n.s.
Change:	1977-1978	9	-0.8%	593	-0.3%	-0.4	n.s.
	1976-1978	9	-2.2%	583	-1.1%	-0.5	n.s.
	1975-1978	9	-7.1%	574	-1.6%	-2.1	n.s.
Static:	1977	9	47.1%	593	47.5%	-0.2	n.s.
Change:	1976-1977	9	-1.3%	583	-0.9%	-0.3	n.s.
	1975-1977	9	-6.3%	574	-1.4%	-2.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 23: Library Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	2.8%	791	3.3%	-2.4	n.s.
Change:	1977-1978	72	-0.3%	782	-0.1%	-1.1	n.s.
	1976-1978	72	-0.3%	776	-0.4%	0.5	n.s.
	1975-1978	71	-0.0%	768	-0.1%	0.5	n.s.
Static:	1977	72	3.0%	782	3.3%	-1.2	n.s.
Change:	1976-1977	72	-0.0%	776	-0.3%	1.4	n.s.
	1975-1977	71	+0.2%	768	-0.1%	1.3	n.s.
2-Year Private							
Static:	1978	17	3.7%	158	3.4%	0.2	n.s.
Change:	1977-1978	17	-0.1%	149	+0.1%	-1.0	n.s.
	1976-1978	17	-0.6%	147	-0.4%	-0.5	n.s.
	1975-1978	17	-0.7%	144	-0.1%	-1.2	n.s.
Static:	1977	17	3.8%	149	3.2%	0.5	n.s.
Change:	1976-1977	17	-0.4%	147	-0.5%	0.1	n.s.
	1975-1977	17	-0.6%	144	-0.2%	-0.6	n.s.
2-Year Public							
Static:	1978	9	2.6%	601	3.5%	-1.5	n.s.
Change:	1977-1978	9	-0.3%	593	-0.1%	-0.9	n.s.
	1976-1978	9	-1.1%	583	-0.8%	-0.4	n.s.
	1975-1978	9	-0.6%	574	-0.1%	-0.8	n.s.
Static:	1977	9	2.9%	593	3.6%	-1.1	n.s.
Change:	1976-1977	9	-0.8%	583	-0.7%	-0.1	n.s.
	1975-1977	9	-0.3%	574	-0.1%	-0.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 24: Unrestricted Scholarships/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	5.0%	791	4.4%	1.5	n.s.
Change:	1977-1978	72	+0.4%	782	+0.0%	1.5	n.s.
	1976-1978	72	-0.3%	776	-0.0%	-0.7	n.s.
	1975-1978	72	-2.0%	768	+0.2%	-2.4	n.s.
Static:	1977	72	4.6%	782	4.4%	0.5	n.s.
Change:	1976-1977	72	-0.7%	776	-0.1%	-1.9	n.s.
	1975-1977	72	-2.4%	768	+0.1%	-2.8	*
2-Year Private							
Static:	1978	17	3.2%	158	2.5%	0.9	n.s.
Change:	1977-1978	17	+0.0%	149	-0.1%	0.1	n.s.
	1976-1978	17	-0.4%	146	+0.1%	-0.4	n.s.
	1975-1978	17	-1.4%	144	-0.4%	-0.7	n.s.
Static:	1977	17	3.2%	149	2.6%	0.7	n.s.
Change:	1976-1977	17	-0.4%	146	-0.1%	-0.4	n.s.
	1975-1977	17	-1.4%	144	-0.6%	-0.9	n.s.
2-Year Public							
Static:	1978	9	0.6%	601	0.5%	0.2	n.s.
Change:	1977-1978	9	-0.2%	593	-0.0%	-0.7	n.s.
	1976-1978	9	-0.5%	583	-0.0%	-1.4	n.s.
	1975-1978	9	-0.2%	574	-0.2%	-0.2	n.s.
Static:	1977	9	0.8%	593	0.5%	0.7	n.s.
Change:	1976-1977	9	-0.3%	583	+0.0%	-1.0	n.s.
	1975-1977	9	+0.0%	574	-0.1%	0.3	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 25: Scholarships/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	10.0%	791	8.7%	1.8	n.s.
Change:	1977-1978	72	+0.6%	782	-0.1%	1.6	n.s.
	1976-1978	72	+0.4%	776	-0.0%	0.7	n.s.
	1975-1978	72	-0.9%	768	+0.7%	-1.6	n.s.
Static:	1977	72	9.4%	782	8.9%	0.7	n.s.
Change:	1976-1977	72	-0.2%	776	+0.9%	-0.9	n.s.
	1975-1977	72	-1.5%	768	+0.9%	-2.3	n.s.
2-Year Private							
Static:	1978	17	6.1%	158	5.8%	0.2	n.s.
Change:	1977-1978	17	-1.2%	149	-0.2%	-0.8	n.s.
	1976-1978	17	+0.2%	146	-0.5%	0.4	n.s.
	1975-1978	17	+0.5%	144	-0.4%	0.5	n.s.
Static:	1977	17	7.3%	149	5.6%	1.0	n.s.
Change:	1976-1977	17	+1.4%	146	-0.7%	1.7	n.s.
	1975-1977	17	+1.7%	144	-0.5%	1.7	n.s.
2-Year Public							
Static:	1978	9	4.1%	600	2.2%	0.9	n.s.
Change:	1977-1978	9	+1.6%	592	-0.5%	0.9	n.s.
	1976-1978	9	+0.3%	582	-0.4%	0.5	n.s.
	1975-1978	9	+1.5%	573	-0.3%	0.7	n.s.
Static:	1977	9	2.4%	592	2.7%	-0.2	n.s.
Change:	1976-1977	9	-1.3%	582	+0.1%	-1.3	n.s.
	1975-1977	9	-0.2%	573	+0.2%	-0.3	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 26: Student Services Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	7.4%	791	7.2%	0.5	n.s.
Change:	1977-1978	72	+0.0%	782	+0.3%	-1.0	n.s.
	1976-1978	72	+0.6%	776	+0.5%	0.2	n.s.
	1975-1978	71	+0.8%	768	+0.7%	0.3	n.s.
Static:	1977	72	7.3%	782	6.9%	1.1	n.s.
Change:	1976-1977	72	+0.5%	776	+0.3%	1.2	n.s.
	1975-1977	71	+0.8%	768	+0.5%	1.0	n.s.
2-Year Private							
Static:	1978	17	7.4%	157	8.4%	-0.7	n.s.
Change:	1977-1978	17	+1.9%	148	+0.9%	1.0	n.s.
	1976-1978	17	+0.9%	146	+1.2%	-0.3	n.s.
	1975-1978	17	+1.7%	143	+1.4%	0.2	n.s.
Static:	1977	17	5.5%	148	7.7%	-1.8	n.s.
Change:	1976-1977	17	-1.0%	146	-0.5%	-1.0	n.s.
	1975-1977	17	-0.2%	143	+0.6%	-0.9	n.s.
2-Year Public							
Static:	1978	9	6.3%	601	7.5%	-1.2	n.s.
Change:	1977-1978	9	+0.2%	593	-0.1%	0.4	n.s.
	1976-1978	9	+1.0%	583	+0.2%	1.0	n.s.
	1975-1978	9	+0.1%	574	+0.2%	-0.2	n.s.
Static:	1977	9	6.1%	593	7.6%	-1.4	n.s.
Change:	1976-1977	9	+0.8%	583	+0.2%	0.8	n.s.
	1975-1977	9	-0.1%	574	+0.3%	-0.7	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 27: Research Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	1.3%	791	0.7%	1.2	n.s.
Change:	1977-1978	72	-0.2%	782	-0.0%	-0.5	n.s.
	1976-1978	72	-0.2%	776	-0.0%	-0.6	n.s.
	1975-1978	72	+0.3%	768	-0.1%	0.9	n.s.
Static:	1977	72	1.5%	782	0.8%	1.3	n.s.
Change:	1976-1977	72	-0.0%	776	+0.0%	-0.2	n.s.
	1975-1977	72	+0.4%	768	-0.1%	1.0	n.s.
2-Year Private							
Static:	1978	17	0.0%	158	0.2%	-1.4	n.s.
Change:	1977-1978	17	+0.0%	149	+0.0%	-0.6	n.s.
	1976-1978	17	+0.0%	146	-0.0%	0.4	n.s.
	1975-1978	17	+0.0%	144	+0.0%	-0.4	n.s.
Static:	1977	17	0.0%	149	0.2%	-1.4	n.s.
Change:	1976-1977	17	+0.0%	146	-0.0%	0.8	n.s.
	1975-1977	17	+0.0%	144	+0.0%	-0.3	n.s.
2-Year Public							
Static:	1978	9	0.0%	601	0.2%	-2.6	n.s.
Change:	1977-1978	9	-0.1%	593	-0.0%	-0.8	n.s.
	1976-1978	9	-0.2%	583	+0.0%	-0.7	n.s.
	1975-1978	9	+0.0%	574	-0.0%	1.1	n.s.
Static:	1977	9	0.1%	593	0.2%	0.7	n.s.
Change:	1976-1977	9	-0.1%	583	+0.0%	-1.3	n.s.
	1975-1977	9	+0.1%	574	-0.0%	1.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 28: Institutional Support Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	17.1%	791	15.5%	1.6	n.s.
Change:	1977-1978	72	+0.8%	782	-0.2%	1.8	n.s.
	1976-1978	72	-0.1%	776	-0.2%	0.4	n.s.
	1975-1978	71	+0.6%	768	+0.0%	0.6	n.s.
Static:	1977	72	16.3%	782	15.5%	1.0	n.s.
Change:	1976-1977	72	-0.6%	776	+0.0%	-1.0	n.s.
	1975-1977	71	-0.1%	768	+0.2%	-0.4	n.s.
2-Year Private							
Static:	1978	17	18.9%	158	19.4%	-0.2	n.s.
Change:	1977-1978	17	+0.3%	149	-0.1%	0.1	n.s.
	1976-1978	17	+0.8%	147	+0.6%	0.1	n.s.
	1975-1978	17	+1.5%	144	+0.7%	0.4	n.s.
Static:	1977	17	18.6%	149	19.4%	-0.3	n.s.
Change:	1976-1977	17	+0.5%	147	+0.8%	-0.2	n.s.
	1975-1977	17	+1.3%	144	+0.8%	0.1	n.s.
2-Year Public							
Static:	1978	9	18.5%	601	13.5%	2.5	n.s.
Change:	1977-1978	9	+0.7%	593	+0.2%	0.3	n.s.
	1976-1978	9	+1.0%	583	+0.5%	0.3	n.s.
	1975-1978	9	+1.4%	574	+0.9%	0.2	n.s.
Static:	1977	9	17.8%	593	13.3%	2.3	n.s.
Change:	1976-1977	9	+0.3%	583	+0.3%	0.0	n.s.
	1975-1977	9	+0.7%	574	+0.7%	0.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 29: Operation and Maintenance Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978		Not Distressed in 1978		t-value	Prob.
		N	Mean	N	Mean		
4-Year Private							
Static:	1978	72	10.4%	791	10.0%	0.4	n.s.
Change:	1977-1978	72	-0.5%	782	+0.3%	-2.2	n.s.
	1976-1978	72	-0.1%	776	+0.6%	-1.9	n.s.
	1975-1978	72	+1.1%	768	+0.6%	0.6	n.s.
Static:	1977	72	10.9%	782	9.7%	1.0	n.s.
Change:	1976-1977	72	+0.4%	776	+0.3%	0.1	n.s.
	1975-1977	72	+1.6%	768	+0.3%	1.2	n.s.
2-Year Private							
Static:	1978	17	12.4%	158	11.9%	0.3	n.s.
Change:	1977-1978	17	+0.2%	149	+0.4%	-0.2	n.s.
	1976-1978	17	+1.2%	147	+0.5%	0.6	n.s.
	1975-1978	17	+1.7%	144	+0.4%	0.9	n.s.
Static:	1977	17	12.2%	149	11.6%	0.4	n.s.
Change:	1976-1977	17	+1.0%	147	+0.2%	1.1	n.s.
	1975-1977	17	+1.5%	144	+0.3%	1.1	n.s.
2-Year Public							
Static:	1978	9	9.0%	601	10.8%	-1.5	n.s.
Change:	1977-1978	9	+0.1%	593	+0.1%	0.0	n.s.
	1976-1978	9	+1.2%	583	+0.4%	1.0	n.s.
	1975-1978	9	+1.8%	574	+0.6%	1.1	n.s.
Static:	1977	9	8.9%	593	10.7%	-1.5	n.s.
Change:	1976-1977	9	+1.1%	583	+0.3%	1.1	n.s.
	1975-1977	9	+1.7%	574	+0.6%	1.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 30: Public Service Expenditures/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978		Not Distressed in 1978		t-value	Prob.
		N	Mean	N	Mean		
4-Year Private							
Static:	1978	72	0.7%	791	0.9%	-0.6	n.s.
Change:	1977-1978	72	-0.1%	782	+0.1%	-0.7	n.s.
	1976-1978	72	+0.0%	776	+0.1%	-0.0	n.s.
	1975-1978	72	+0.0%	768	+0.1%	-0.1	n.s.
Static:	1977	72	0.8%	782	0.8%	0.1	n.s.
Change:	1976-1977	72	+0.2%	776	+0.0%	1.2	n.s.
	1975-1977	72	+0.2%	768	+0.0%	0.6	n.s.
2-Year Private							
Static:	1978	17	0.7%	158	0.7%	0.1	n.s.
Change:	1977-1978	17	+0.1%	149	+0.1%	0.2	n.s.
	1976-1978	17	+0.1%	146	+0.2%	-0.4	n.s.
	1975-1978	17	+0.3%	144	-0.1%	1.3	n.s.
Static:	1977	17	0.6%	149	0.6%	-0.1	n.s.
Change:	1976-1977	17	-0.1%	146	+0.1%	-1.1	n.s.
	1975-1977	17	+0.2%	144	-0.0%	0.5	n.s.
2-Year Public							
Static:	1978	9	2.3%	600	1.9%	0.4	n.s.
Change:	1977-1978	9	-0.8%	592	+0.1%	-0.8	n.s.
	1976-1978	9	-0.1%	582	+0.3%	-0.3	n.s.
	1975-1978	9	+0.6%	573	-0.1%	0.5	n.s.
Static:	1977	9	3.1%	592	1.7%	0.9	n.s.
Change:	1976-1977	9	+0.7%	582	+0.1%	0.4	n.s.
	1975-1977	9	+1.4%	573	-0.2%	1.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 31: Interest Payments on Plant Debt/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	3.5%	791	2.3%	2.9	*
Change:	1977-1978	72	-0.6%	782	-0.2%	-0.9	n.s.
	1976-1978	72	-0.5%	776	-0.2%	-0.2	n.s.
	1975-1978	72	-0.1%	768	-0.5%	1.1	n.s.
Static:	1977	72	4.0%	782	2.4%	2.9	*
Change:	1976-1977	72	+0.1%	776	-0.2%	0.7	n.s.
	1975-1977	72	+0.5%	768	-0.3%	1.5	n.s.
2-Year Private							
Static:	1978	17	3.0%	158	1.9%	1.3	n.s.
Change:	1977-1978	17	-1.3%	149	+0.0%	-1.4	n.s.
	1976-1978	17	-0.2%	147	-0.3%	0.1	n.s.
	1975-1978	17	-2.3%	144	-0.7%	-0.9	n.s.
Static:	1977	17	4.2%	149	1.9%	1.9	n.s.
Change:	1976-1977	17	+1.1%	147	-0.0%	1.0	n.s.
	1975-1977	17	-1.0%	144	-0.4%	-0.4	n.s.
2-Year Public							
Static:	1978	9	0.2%	600	1.5%	-8.0	***
Change:	1977-1978	9	-0.1%	592	-0.2%	2.0	n.s.
	1976-1978	9	-0.1%	582	-0.2%	1.1	n.s.
	1975-1978	9	-0.1%	573	-0.3%	1.2	n.s.
Static:	1977	9	0.3%	592	1.7%	-7.3	***
Change:	1976-1977	9	-0.0%	582	+0.0%	-0.6	n.s.
	1975-1977	9	-0.1%	573	-0.1%	0.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 32: Instructional Expenditures/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$1,531	790	$1,499	0.3	n.s.
Change:	1977-1978	72	+$43	780	+$14	0.8	n.s.
	1976-1978	72	+$20	773	-$3	0.4	n.s.
	1975-1978	72	+$51	767	-$42	1.9	n.s.
Static:	1977	72	$1,488	781	$1,486	0.0	n.s.
Change:	1976-1977	72	-$23	773	-$18	-0.1	n.s.
	1975-1977	72	+$8	766	-$52	1.0	n.s.
2-Year Private							
Static:	1978	17	$1,430	158	$950	1.9	n.s.
Change:	1977-1978	17	+$297	149	-$14	1.7	n.s.
	1976-1978	17	+$243	147	-$27	1.8	n.s.
	1975-1978	17	+$226	144	-$187	2.3	n.s.
Static:	1977	17	$1,134	149	$972	0.9	n.s.
Change:	1976-1977	17	-$54	147	-$13	-0.7	n.s.
	1975-1977	17	-$71	144	-$171	1.1	n.s.
2-Year Public							
Static:	1978	9	$1,250	601	$1,219	0.2	n.s.
Change:	1977-1978	9	+$35	592	+$30	0.7	n.s.
	1976-1978	9	+$143	583	+$92	0.6	n.s.
	1975-1978	9	-$184	574	-$50	-1.1	n.s.
Static:	1977	9	$1,216	592	$1,188	0.2	n.s.
Change:	1976-1977	9	+$108	582	+$60	0.6	n.s.
	1975-1977	9	-$218	573	-$83	-1.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

127

Indicator 33: Unrestricted Scholarships/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$287	790	$226	2.5	n.s.
Change:	1977-1978	72	+$32	780	+$4	1.8	n.s.
	1976-1978	72	-$15	775	+$1	-0.9	n.s.
	1975-1978	72	-$72	768	+$12	-2.5	n.s.
Static:	1977	72	$255	781	$224	1.3	n.s.
Change:	1976-1977	72	-$47	775	-$3	-2.4	n.s.
	1975-1977	72	-$104	767	+$7	-3.5	**
2-Year Private							
Static:	1978	17	$175	158	$91	1.5	n.s.
Change:	1977-1978	17	+$22	149	-$1	0.4	n.s.
	1976-1978	17	+$11	146	+$4	0.1	n.s.
	1975-1978	17	-$1	144	-$18	0.3	n.s.
Static:	1977	17	$153	149	$94	1.6	n.s.
Change:	1976-1977	17	-$11	146	+$0	-0.3	n.s.
	1975-1977	17	-$23	144	-$22	-0.0	n.s.
2-Year Public							
Static:	1978	9	$16	601	$14	0.1	n.s.
Change:	1977-1978	9	-$6	592	-$0	-0.6	n.s.
	1976-1978	9	-$10	583	+$2	-1.1	n.s.
	1975-1978	9	+$0	574	-$5	0.9	n.s.
Static:	1977	9	$22	592	$15	0.5	n.s.
Change:	1976-1977	9	-$4	582	+$2	-0.7	n.s.
	1975-1977	9	+$6	573	-$4	0.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 34: Educational and General Expenditures/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$4,766	790	$4,089	2.9	*
Change:	1977-1978	72	+$262	780	+$43	1.9	n.s.
	1976-1978	72	+$268	775	+$83	1.1	n.s.
	1975-1978	72	+$278	768	+$42	1.3	n.s.
Static:	1977	72	$4,503	781	$4,037	2.1	n.s.
Change:	1976-1977	72	+$6	775	+$36	-0.2	n.s.
	1975-1977	72	+$16	767	+$5	0.1	n.s.
2-Year Private							
Static:	1978	17	$4,090	158	$2,904	3.5	**
Change:	1977-1978	17	+$520	149	+$35	1.9	n.s.
	1976-1978	17	+$535	147	+$44	2.4	n.s.
	1975-1978	17	+$832	144	-$265	3.5	**
Static:	1977	17	$3,570	149	$2,894	1.9	n.s.
Change:	1976-1977	17	+$15	147	+$9	0.0	n.s.
	1975-1977	17	+$313	144	-$284	1.9	n.s.
2-Year Public							
Static:	1978	9	$2,523	601	$2,413	0.5	n.s.
Change:	1977-1978	9	+$58	592	+$69	-0.1	n.s.
	1976-1978	9	+$378	583	+$235	0.9	n.s.
	1975-1978	9	+$8	574	-$20	0.1	n.s.
Static:	1977	9	$2,464	592	$2,341	0.5	n.s.
Change:	1976-1977	9	+$319	582	+$163	1.1	n.s.
	1975-1977	9	-$50	573	-$95	0.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 35: Current Fund Expenditures/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$5,855	790	$5,088	2.7	*
Change:	1977-1978	72	+$268	780	+$38	1.8	n.s.
	1976-1978	72	+$286	775	+$68	1.3	n.s.
	1975-1978	72	+$165	768	+$9	0.9	n.s.
Static:	1977	72	$5,587	781	$5,046	2.0	n.s.
Change:	1976-1977	72	+$18	775	+$27	-0.1	n.s.
	1975-1977	72	-$103	767	-$21	-0.5	n.s.
2-Year Private							
Static:	1978	17	$4,850	158	$3,575	2.8	*
Change:	1977-1978	17	+$501	149	+$62	1.6	n.s.
	1976-1978	17	+$467	147	+$60	1.2	n.s.
	1975-1978	17	+$681	144	-$283	2.8	*
Static:	1977	17	$4,350	149	$3,548	1.8	n.s.
Change:	1976-1977	17	-$34	147	-$2	-0.2	n.s.
	1975-1977	17	+$181	144	-$328	1.5	n.s.
2-Year Public							
Static:	1978	9	$2,689	601	$2,606	0.6	n.s.
Change:	1977-1978	9	+$67	592	+$77	-0.0	n.s.
	1976-1978	9	+$411	583	+$252	1.0	n.s.
	1975-1978	9	+$22	574	-$11	0.2	n.s.
Static:	1977	9	$2,622	592	$2,526	0.4	n.s.
Change:	1976-1977	9	+$343	582	+$171	1.2	n.s.
	1975-1977	9	-$45	573	-$94	0.2	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 36: Research Expenditures/Full-Time Faculty Member

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	$1,388	775	$926	0.7	n.s.
Change:	1977-1978	71	-$296	764	+$22	-1.4	n.s.
	1976-1978	69	-$629	741	+$76	-1.4	n.s.
	1975-1978	71	+$391	744	+$36	0.7	n.s.
Static:	1977	71	$1,684	767	$912	1.1	n.s.
Change:	1976-1977	69	-$472	740	+$55	-1.2	n.s.
	1975-1977	71	+$687	744	+$14	1.0	n.s.
2-Year Private							
Static:	1978	16	$0	148	$118	-1.6	n.s.
Change:	1977-1978	16	+$0	138	+$17	-0.8	n.s.
	1976-1978	15	+$0	131	-$21	0.9	n.s.
	1975-1978	16	+$0	129	-$222	1.0	n.s.
Static:	1977	16	$0	138	$110	-1.4	n.s.
Change:	1976-1977	15	+$0	130	-$37	1.4	n.s.
	1975-1977	16	+$0	129	-$239	1.1	n.s.
2-Year Public							
Static:	1978	9	$9	598	$120	-3.5	**
Change:	1977-1978	9	-$16	584	-$35	0.5	n.s.
	1976-1978	9	-$41	568	+$37	-1.6	n.s.
	1975-1978	9	+$9	557	-$2	0.4	n.s.
Static:	1977	9	$25	585	$158	-2.4	n.s.
Change:	1976-1977	9	-$25	568	+$40	-1.6	n.s.
	1975-1977	9	+$25	557	+$1	0.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 37: Unrestricted Scholarships/Tuition Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	12.2%	791	9.0%	2.4	n.s.
Change:	1977-1978	72	+1.0%	782	-0.1%	1.6	n.s.
	1976-1978	72	-0.9%	776	-0.4%	-0.5	n.s.
	1975-1978	71	-2.6%	768	-0.1%	-1.4	n.s.
Static:	1977	72	11.1%	782	9.2%	1.8	n.s.
Change:	1976-1977	72	-1.9%	776	-0.2%	-1.8	n.s.
	1975-1977	71	-3.6%	768	+0.0%	-2.1	n.s.
2-Year Private							
Static:	1978	17	9.7%	157	5.9%	1.2	n.s.
Change:	1977-1978	17	-0.5%	148	-0.5%	-0.0	n.s.
	1976-1978	17	-3.1%	146	+0.3%	-0.9	n.s.
	1975-1978	17	-3.6%	143	-1.2%	-0.7	n.s.
Static:	1977	17	10.3%	148	6.4%	1.2	n.s.
Change:	1976-1977	17	-2.5%	146	+0.0%	-0.7	n.s.
	1975-1977	17	-3.1%	143	-1.5%	-0.7	n.s.
2-Year Public							
Static:	1978	9	3.7%	599	5.5%	-0.7	n.s.
Change:	1977-1978	9	-1.5%	591	-1.3%	-0.1	n.s.
	1976-1978	9	-3.5%	579	-0.7%	-0.9	n.s.
	1975-1978	9	-2.2%	569	-4.6%	-0.6	n.s.
Static:	1977	9	5.2%	591	6.8%	-0.6	n.s.
Change:	1976-1977	9	-2.0%	579	+1.5%	-1.2	n.s.
	1975-1977	9	-0.7%	569	-2.3%	0.4	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 38: Scholarships/Tuition Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	25.4%	791	18.9%	2.3	n.s.
Change:	1977-1978	72	+2.3%	782	-0.5%	1.7	n.s.
	1976-1978	72	+2.0%	776	-0.5%	1.3	n.s.
	1975-1978	71	-0.2%	768	+0.8%	-0.4	n.s.
Static:	1977	72	23.2%	782	19.4%	1.6	n.s.
Change:	1976-1977	72	-0.2%	776	+0.0%	-0.2	n.s.
	1975-1977	71	-2.5%	768	+1.3%	-1.4	n.s.
2-Year Private							
Static:	1978	17	17.1%	157	20.1%	-0.5	n.s.
Change:	1977-1978	17	-4.3%	148	-0.4%	-1.0	n.s.
	1976-1978	17	-1.0%	146	-0.8%	-0.0	n.s.
	1975-1978	17	+1.5%	143	+0.7%	0.2	n.s.
Static:	1977	17	21.4%	148	20.2%	0.2	n.s.
Change:	1976-1977	17	+3.4%	146	-1.3%	0.8	n.s.
	1975-1977	17	+5.9%	143	+0.2%	1.0	n.s.
2-Year Public							
Static:	1978	9	29.0%	599	66.5%	-0.9	n.s.
Change:	1977-1978	9	+8.6%	591	+0.9%	0.4	n.s.
	1976-1978	9	+3.5%	579	-2.0%	0.4	n.s.
	1975-1978	9	+7.9%	569	-24.4%	1.1	n.s.
Static:	1977	9	20.4%	591	66.5%	-1.3	n.s.
Change:	1976-1977	9	-5.1%	579	-0.5%	-0.4	n.s.
	1975-1977	9	-0.7%	569	-22.9%	0.9	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 39: Unrestricted Current Fund Balance/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978		Not Distressed in 1978		t-value	Prob.
		N	Mean	N	Mean		
4-Year Private							
Static:	1978	72	-22.5%	791	1.2%	-6.5	***
Change:	1977-1978	72	-5.3%	782	+0.1%	-2.0	n.s.
	1976-1978	72	-9.7%	776	-1.1%	-2.2	n.s.
	1975-1978			Undefined			
Static:	1977	72	17.3%	782	1.0%	-4.9	***
Change:	1976-1977	72	-4.5%	776	-0.9%	-1.3	n.s.
	1975-1977			Undefined			
2-Year Private							
Static:	1978	17	-24.6%	158	17.9%	-5.4	***
Change:	1977-1978	17	-0.2%	149	-0.3%	0.0	n.s.
	1976-1978	17	-6.9%	147	+0.9%	-1.1	n.s.
	1975-1978			Undefined			
Static:	1977	17	-24.5%	149	18.5%	-5.9	***
Change:	1976-1977	17	-6.8%	147	+1.2%	-1.6	n.s.
	1975-1977			Undefined			
2-Year Public							
Static:	1978	9	23.7%	601	13.8%	0.5	n.s.
Change:	1977-1978	9	+3.8%	593	+0.1%	1.0	n.s.
	1976-1978	9	+11.0%	583	+0.1%	1.9	n.s.
	1975-1978			Undefined			
Static:	1977	9	19.9%	593	13.7%	0.4	n.s.
Change:	1976-1977	9	+7.2%	583	+0.0%	1.9	n.s.
	1975-1977			Undefined			

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Note: This variable cannot be computed for 1975 because restricted and unrestricted current fund balances were not differentiated before 1976.

Indicator 40: Current Fund Balance/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-18.4%	791	5.8%	-7.3	***
Change:	1977-1978	72	-4.1%	782	+0.2%	-1.8	n.s.
	1976-1978	72	-8.2%	776	-0.6%	-2.1	n.s.
	1975-1978	72	-11.3%	768	+1.7%	-3.1	*
Static:	1977	72	-14.3%	782	5.5%	-5.4	***
Change:	1976-1977	72	-4.1%	776	-0.5%	-1.3	n.s.
	1975-1977	72	-7.1%	768	+1.7%	-2.5	n.s.
2-Year Private							
Static:	1978	17	-22.7%	158	22.8%	-5.7	***
Change:	1977-1978	17	-0.4%	149	+0.9%	-0.3	n.s.
	1976-1978	17	-7.3%	147	+0.5%	-0.9	n.s.
	1975-1978	17	-26.2%	144	+8.5%	-2.2	n.s.
Static:	1977	17	-22.3%	149	22.2%	-6.2	***
Change:	1976-1977	17	-6.9%	147	-0.4%	-1.0	n.s.
	1975-1977	17	-25.8%	144	+7.8%	-2.2	n.s.
2-Year Public							
Static:	1978	9	25.8%	601	15.6%	0.6	n.s.
Change:	1977-1978	9	+4.1%	593	+0.3%	0.9	n.s.
	1976-1978	9	+11.4%	583	+0.0%	1.8	n.s.
	1975-1978	9	+10.1%	574	+0.0%	0.5	n.s.
Static:	1977	9	21.7%	593	15.3%	0.4	n.s.
Change:	1976-1977	9	+7.3%	583	-0.3%	1.7	n.s.
	1975-1977	9	+6.1%	574	-0.0%	0.4	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Note: Extreme decreases in the ratio of a current fund balance to current fund expenditures over a three-year period (1975-1978) coupled with a negative current fund balance (1978) were used to identify distress for private colleges and therefore this indicator is assumed to be related to distress for private colleges and cannot be validated for those colleges in these analyses.

Indicator 41: Current Fund Balance + 20% Endowment Balance/Educational and General Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-14.8%	791	22.4%	-7.7	***
Change:	1977-1978	72	-4.3%	782	+0.0%	-1.5	n.s.
	1976-1978	72	-10.6%	776	-1.5%	-1.9	n.s.
	1975-1978	72	-15.2%	768	+0.4%	-2.9	*
Static:	1977	72	-10.5%	782	22.4%	-6.9	***
Change:	1976-1977	72	-6.3%	776	-1.3%	-1.4	n.s.
	1975-1977	72	-10.9%	768	+0.6%	-2.6	n.s.
2-Year Private							
Static:	1978	17	-20.1%	158	34.5%	-5.2	***
Change:	1977-1978	17	+0.6%	149	+0.3%	0.1	n.s.
	1976-1978	17	-7.0%	147	-3.1%	-0.3	n.s.
	1975-1978	17	-26.1%	144	+5.3%	-1.9	n.s.
Static:	1977	17	-20.7%	149	34.7%	-5.5	***
Change:	1976-1977	17	-7.6%	147	-3.3%	-0.4	n.s.
	1975-1977	17	-26.7%	144	+5.3%	-2.2	n.s.
2-Year Public							
Static:	1978	9	28.7%	601	17.0%	0.6	n.s.
Change:	1977-1978	9	+4.9%	593	+0.2%	1.1	n.s.
	1976-1978	9	+13.8%	583	-0.1%	2.1	n.s.
	1975-1978	9	+12.3%	574	+0.1%	0.6	n.s.
Static:	1977	9	23.8%	593	16.8%	0.5	n.s.
Change:	1976-1977	9	+8.9%	583	-0.2%	1.8	n.s.
	1975-1977	9	+7.4%	574	+0.2%	0.4	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 42: Net Change in Current Funds/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-6.2%	791	0.5%	-3.8	**
Change:	1977-1978	72	-3.9%	782	-0.1%	-1.8	n.s.
	1976-1978	72	-5.7%	775	-0.7%	-2.0	n.s.
	1975-1978	72	-5.0%	768	+0.8%	-2.5	n.s.
Static:	1977	72	-2.3%	782	0.7%	-1.8	n.s.
Change:	1976-1977	72	-1.8%	775	-0.6%	-0.5	n.s.
	1975-1977	72	-1.0%	768	+0.8%	-0.9	n.s.
2-Year Private							
Static:	1978	17	-2.6%	158	1.6%	-1.4	n.s.
Change:	1977-1978	17	+1.4%	149	-0.5%	0.5	n.s.
	1976-1978	17	+2.7%	147	-1.1%	0.8	n.s.
	1975-1978	17	-6.0%	144	+0.9%	-1.0	n.s.
Static:	1977	17	-4.0%	149	2.0%	1.9	n.s.
Change:	1976-1977	17	+1.4%	147	-0.6%	0.3	n.s.
	1975-1977	17	-7.4%	144	+1.2%	-1.3	n.s.
2-Year Public							
Static:	1978	9	4.0%	601	1.8%	0.9	n.s.
Change:	1977-1978	9	-1.4%	593	+0.6%	-1.8	n.s.
	1976-1978	9	+7.4%	583	-0.7%	0.8	n.s.
	1975-1978	9	+2.9%	574	-0.4%	1.0	n.s.
Static:	1977	9	5.4%	593	1.3%	1.3	n.s.
Change:	1976-1977	9	+8.8%	583	-1.2%	0.9	n.s.
	1975-1977	9	+4.2%	574	-1.0%	2.4	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 43: Endowment Market Value/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	33.5%	791	65.3%	-4.7	***
Change:	1977-1978	72	-0.4%	782	-2.2%	1.0	n.s.
	1976-1978	72	-2.6%	776	-4.0%	0.4	n.s.
	1975-1978	72	-4.5%	768	-3.3%	-0.3	n.s.
Static:	1977	72	33.8%	782	68.3%	-4.9	***
Change:	1976-1977	72	-2.2%	776	-1.8%	-0.1	n.s.
	1975-1977	72	-4.1%	768	-0.7%	-0.8	n.s.
2-Year Private							
Static:	1978	17	21.8%	158	34.2%	-0.7	n.s.
Change:	1977-1978	17	+0.9%	149	-2.6%	1.6	n.s.
	1976-1978	17	+2.4%	147	-7.2%	1.1	n.s.
	1975-1978	17	+0.5%	144	-9.2%	0.9	n.s.
Static:	1977	17	20.9%	149	37.5%	-1.3	n.s.
Change:	1976-1977	17	+1.5%	147	-4.6%	0.8	n.s.
	1975-1977	17	-0.5%	144	-6.6%	0.6	n.s.
2-Year Public							
Static:	1978	9	0.4%	600	0.9%	-1.4	n.s.
Change:	1977-1978	9	+0.1%	592	+0.2%	-0.4	n.s.
	1976-1978	9	+0.0%	582	+0.2%	-0.7	n.s.
	1975-1978	9	-0.0%	573	+0.4%	-1.4	n.s.
Static:	1977	9	0.3%	592	0.6%	-1.2	n.s.
Change:	1976-1977	9	-0.1%	582	-0.0%	-1.1	n.s.
	1975-1977	9	-0.1%	573	0.2%	-1.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 44: Endowment Market Value/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$2,231	790	$4,127	-3.5	**
Change:	1977-1978	72	+$171	780	-$133	1.9	n.s.
	1976-1978	72	-$27	775	-$223	0.7	n.s.
	1975-1978	72	-$251	768	-$271	0.0	n.s.
Static:	1977	72	$2,060	781	$4,307	-4.4	***
Change:	1976-1977	72	-$198	775	-$89	-0.4	n.s.
	1975-1977	72	-$422	767	-$123	-0.7	n.s.
2-Year Private							
Static:	1978	17	$939	158	$1,665	-1.1	n.s.
Change:	1977-1978	17	+$96	149	-$153	1.7	n.s.
	1976-1978	17	+$168	147	-$121	0.9	n.s.
	1975-1978	17	+$82	144	-$322	1.1	n.s.
Static:	1977	17	$843	149	$1,871	-1.6	n.s.
Change:	1976-1977	17	+$72	147	+$34	0.1	n.s.
	1975-1977	17	-$14	144	-$164	0.4	n.s.
2-Year Public							
Static:	1978	9	$8	600	$28	-1.7	n.s.
Change:	1977-1978	9	+$1	591	+$9	-0.8	n.s.
	1976-1978	9	-$1	582	+$13	-1.3	n.s.
	1975-1978	9	-$1	573	+$14	-1.4	n.s.
Static:	1977	9	$7	591	$17	-1.2	n.s.
Change:	1976-1977	9	-$2	581	+$4	-2.0	n.s.
	1975-1977	9	-$2	572	+$5	-1.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 45: Net Change in All Funds/FTE Student

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	-$8	790	$667	-4.4	***
Change:	1977-1978	72	-$351	780	-$41	-0.9	n.s.
	1976-1978	72	-$50	775	-$47	-0.0	n.s.
	1975-1978	72	-$379	768	+$157	-1.7	n.s.
Static:	1977	72	$343	781	$711	-1.2	n.s.
Change:	1976-1977	72	+$301	775	-$8	0.9	n.s.
	1975-1977	72	-$29	767	+$194	-0.5	n.s.
2-Year Private							
Static:	1978	17	$206	158	$422	-1.1	n.s.
Change:	1977-1978	17	-$147	149	+$13	-0.5	n.s.
	1976-1978	17	+$778	147	+$37	0.8	n.s.
	1975-1978	17	+$33	144	-$131	0.4	n.s.
Static:	1977	17	$353	149	$417	-0.3	n.s.
Change:	1976-1977	17	+$926	147	+$22	1.0	n.s.
	1975-1977	17	+$181	144	-$147	0.7	n.s.
2-Year Public							
Static:	1978	9	$337	601	$261	0.4	n.s.
Change:	1977-1978	9	+$120	592	-$100	2.0	n.s.
	1976-1978	9	-$777	583	-$417	-0.7	n.s.
	1975-1978	9	-$711	574	-$234	-1.0	n.s.
Static:	1977	9	$217	592	$360	-1.1	n.s.
Change:	1976-1977	9	-$897	582	-$327	-1.1	n.s.
	1975-1977	9	-$831	573	-$132	-1.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 46: Plant Assets/Current Fund Expenditures

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	547.0%	791	385.3%	1.9	n.s.
Change:	1977-1978	72	-6.9%	782	-2.7%	-0.0	n.s.
	1976-1978	72	-6.5%	776	-17.8%	0.1	n.s.
	1975-1978	72	-8.1%	768	-26.1%	0.2	n.s.
Static:	1977	72	553.9%	782	388.7%	2.2	n.s.
Change:	1976-1977	72	+0.4%	776	-15.8%	1.0	n.s.
	1975-1977	72	-1.2%	768	-26.0%	0.5	n.s.
2-Year Private							
Static:	1978	17	460.4%	158	402.9%	0.8	n.s.
Change:	1977-1978	17	+1.5%	149	-14.1%	0.6	n.s.
	1976-1978	17	+40.8%	147	+10.1%	0.7	n.s.
	1975-1978	17	-141.0%	144	-58.7%	-0.5	n.s.
Static:	1977	17	458.9%	149	426.5%	0.4	n.s.
Change:	1976-1977	17	+39.4%	147	+23.6%	0.4	n.s.
	1975-1977	17	-142.4%	144	-47.1%	-0.6	n.s.
2-Year Public							
Static:	1978	9	290.9%	601	284.0%	0.1	n.s.
Change:	1977-1978	9	-6.0%	593	+9.5%	-1.0	n.s.
	1976-1978	9	-5.6%	583	+8.3%	-0.7	n.s.
	1975-1978	9	-6.0%	574	+3.2%	-0.3	n.s.
Static:	1977	9	296.9%	593	275.4%	0.4	n.s.
Change:	1976-1977	9	+0.4%	583	-2.4%	0.1	n.s.
	1975-1977	9	-0.0%	574	-5.1%	0.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 47: Plant Debt/Plant Assets

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	33.6%	790	23.7%	4.8	***
Change:	1977-1978	72	-0.9%	781	-0.8%	-0.1	n.s.
	1976-1978	72	-1.5%	775	-1.7%	0.2	n.s.
	1975-1978	72	-1.5%	767	-3.0%	1.5	n.s.
Static:	1977	72	34.5%	782	24.4%	4.1	***
Change:	1976-1977	72	-0.7%	776	-1.0%	0.5	n.s.
	1975-1977	72	-0.6%	768	-2.1%	1.5	n.s.
2-Year Private							
Static:	1978	17	25.8%	158	19.1%	1.2	n.s.
Change:	1977-1978	17	-1.5%	149	-3.1%	0.6	n.s.
	1976-1978	17	-2.1%	146	-2.3%	0.1	n.s.
	1975-1978	17	-4.3%	143	-1.8%	-1.1	n.s.
Static:	1977	17	27.3%	149	22.4%	0.6	n.s.
Change:	1976-1977	17	-0.6%	146	+0.9%	-0.5	n.s.
	1975-1977	17	-2.7%	143	+1.3%	-1.4	n.s.
2-Year Public							
Static:	1978	9	4.0%	600	22.6%	-3.0	*
Change:	1977-1978	9	+0.9%	592	-2.2%	3.0	*
	1976-1978	9	+0.5%	582	-2.4%	2.1	n.s.
	1975-1978	9	+0.3%	573	-4.8%	3.5	*
Static:	1977	9	3.1%	592	18.6%	-6.7	***
Change:	1976-1977	9	-0.4%	582	-0.1%	-0.2	n.s.
	1975-1977	9	-0.6%	573	-2.6%	1.8	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 48: Debt on Plant/Current Fund Revenues

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	90.9%	791	47.3%	4.9	***
Change:	1977-1978	72	-5.4%	782	-4.9%	-0.2	n.s.
	1976-1978	72	-6.9%	775	-9.9%	0.5	n.s.
	1975-1978	72	-6.9%	768	-17.8%	1.7	n.s.
Static:	1977	72	96.3%	782	52.3%	4.6	***
Change:	1976-1977	72	-1.5%	775	-5.0%	0.7	n.s.
	1975-1977	72	-1.5%	768	-12.6%	1.7	n.s.
2-Year Private							
Static:	1978	17	58.4%	158	34.1%	2.1	n.s.
Change:	1977-1978	17	-7.9%	149	-5.2%	-0.4	n.s.
	1976-1978	17	-12.2%	147	-7.8%	-0.4	n.s.
	1975-1978	17	-35.0%	144	-13.8%	-2.0	n.s.
Static:	1977	17	66.3%	149	40.0%	2.0	n.s.
Change:	1976-1977	17	-4.3%	147	-2.6%	-0.2	n.s.
	1975-1977	17	-27.1%	144	-9.0%	-1.9	n.s.
2-Year Public							
Static:	1978	9	8.7%	600	29.4%	-4.1	**
Change:	1977-1978	9	+0.9%	592	-3.8%	3.6	*
	1976-1978	9	+0.2%	582	-6.0%	3.8	**
	1975-1978	9	-1.2%	573	-11.6%	4.1	**
Static:	1977	9	7.8%	592	32.2%	-5.4	***
Change:	1976-1977	9	-0.7%	582	-2.1%	1.2	n.s.
	1975-1977	9	-2.1%	573	-7.8%	2.8	*

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 49: Payments on Principal of Plant Debt/Principal Owed

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	69	3.8%	732	8.2%	-4.5	***
Change:	1977-1978	67	-1.5%	718	+0.1%	-1.5	n.s.
	1976-1978	66	-2.3%	710	-0.7%	-0.9	n.s.
	1975-1978	67	-2.5%	703	+0.6%	-1.7	n.s.
Static:	1977	67	5.2%	720	8.1%	-2.4	n.s.
Change:	1976-1977	66	-0.8%	712	-0.8%	-0.0	n.s.
	1975-1977	66	-1.1%	705	+0.6%	-1.0	n.s.
2-Year Private							
Static:	1978	14	10.6%	113	11.4%	-0.1	n.s.
Change:	1977-1978	13	-2.9%	106	+0.4%	-1.3	n.s.
	1976-1978	12	+0.5%	99	-3.2%	0.9	n.s.
	1975-1978	13	-0.1%	96	-15.4%	0.8	n.s.
Static:	1977	13	13.9%	108	12.3%	0.2	n.s.
Change:	1976-1977	12	+1.5%	100	-4.0%	1.3	n.s.
	1975-1977	13	+2.7%	96	-15.3%	1.0	n.s.
2-Year Public							
Static:	1978	4	7.2%	340	11.7%	-0.4	n.s.
Change:	1977-1978	3	-1.1%	322	+2.2%	-0.4	n.s.
	1976-1978	3	-1.1%	309	-0.0%	-0.1	n.s.
	1975-1978	3	-0.9%	296	+0.7%	-0.2	n.s.
Static:	1977	3	3.2%	330	11.5%	-5.2	*
Change:	1976-1977	3	+0.0%	314	-0.2%	0.2	n.s.
	1975-1977	3	+0.2%	299	+0.8%	-0.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 50: Full-Time Equivalent Enrollment

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	647	791	1,426	-8.3	***
Change:	1977-1978	72	-3.7%	782	+3.3%	-3.3	**
	1976-1978	72	-6.8%	779	+5.2%	-3.9	**
	1975-1978	72	-8.9%	772	+12.9%	-5.5	***
Static:	1977	72	672	783	1,394	-7.6	***
Change:	1976-1977	72	-2.7%	779	+2.4%	-1.5	n.s.
	1975-1977	72	-4.7%	771	+10.0%	-4.0	***
2-Year Private							
Static:	1978	17	286	158	533	-3.1	*
Change:	1977-1978	17	-7.9%	149	+3.6%	-2.3	n.s.
	1976-1978	17	-6.9%	147	+7.2%	-1.8	n.s.
	1975-1978	17	-7.3%	144	+31.6%	-3.2	*
Static:	1977	17	330	149	527	-2.3	n.s.
Change:	1976-1977	17	+0.4%	147	+3.5%	-0.5	n.s.
	1975-1977	17	+1.1%	144	+29.7%	-2.7	*
2-Year Public							
Static:	1978	9	767	601	3,348	-9.6	***
Change:	1977-1978	9	+1.3%	593	+2.8%	-0.3	n.s.
	1976-1978	9	-10.2%	586	+0.3%	-1.6	n.s.
	1975-1978	9	+6.1%	578	+22.1%	-1.6	n.s.
Static:	1977	9	747	593	3,324	-9.8	***
Change:	1976-1977	9	-11.4%	585	-2.0%	-1.7	n.s.
	1975-1977	9	+6.1%	577	+19.5%	-1.5	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Note: Unlike most of the other indicators, which have their change forms computed as a simple difference in values between years, change on this indicator is computed as percent change in value between years.

Note: Extreme decreases in enrollment over three years (1975-1978) were used to identify distress and therefore the change form of this indicator is assumed to be related to distress and cannot be validated by these analyses.

Indicator 51: Part-Time Enrollment/Total Enrollment

College Sector and Form of Indicator		Distressed in 1978		Not Distressed in 1978		t-value	Prob.
		N	Mean	N	Mean		
4-Year Private							
Static:	1978	72	18.3%	791	21.5%	-1.3	n.s.
Change:	1977-1978	72	+0.7%	782	+0.6%	0.1	n.s.
	1976-1978	72	+1.7%	779	+0.9%	0.9	n.s.
	1975-1978	72	+3.1%	772	+1.8%	1.2	n.s.
Static:	1977	72	17.6%	783	20.8%	-1.4	n.s.
Change:	1976-1977	72	+1.0%	779	+0.2%	1.0	n.s.
	1975-1977	72	+2.4%	771	+1.1%	1.3	n.s.
2-Year Private							
Static:	1978	17	17.2%	158	18.7%	-0.3	n.s.
Change:	1977-1978	17	-0.7%	149	+1.7%	-1.1	n.s.
	1976-1978	17	+1.7%	147	+0.1%	0.6	n.s.
	1975-1978	17	+2.3%	144	-1.6%	1.2	n.s.
Static:	1977	17	17.9%	149	17.8%	0.0	n.s.
Change:	1976-1977	17	+2.3%	147	-1.3%	2.2	n.s.
	1975-1977	17	+2.9%	144	-3.0%	2.0	n.s.
2-Year Public							
Static:	1978	9	42.2%	601	52.6%	-1.7	n.s.
Change:	1977-1978	9	+1.9%	593	+2.2%	-0.1	n.s.
	1976-1978	9	+6.3%	586	+4.1%	0.7	n.s.
	1975-1978	9	+3.0%	578	+3.9%	-0.2	n.s.
Static:	1977	9	40.3%	593	50.3%	-1.6	n.s.
Change:	1976-1977	9	+4.3%	585	+1.9%	0.8	n.s.
	1975-1977	9	+1.1%	577	+1.6%	-0.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 52: Unclassified FTE Students/Total FTE Students

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	5.9%	791	4.2%	1.3	n.s.
Change:	1977-1978	72	+1.1%	782	-0.1%	1.1	n.s.
	1976-1978	72	+1.6%	779	+0.1%	1.4	n.s.
	1975-1978	72	+2.3%	772	+0.8%	1.1	n.s.
Static:	1977	72	4.8%	783	4.3%	0.6	n.s.
Change:	1976-1977	72	+0.5%	779	+0.1%	0.7	n.s.
	1975-1977	72	+1.2%	771	+0.8%	0.4	n.s.
2-Year Private							
Static:	1978	17	2.0%	158	2.7%	-0.4	n.s.
Change:	1977-1978	17	+0.6%	149	-1.0%	1.6	n.s.
	1976-1978	17	-2.1%	147	-0.4%	-1.1	n.s.
	1975-1978	17	-0.6%	144	-0.2%	-0.6	n.s.
Static:	1977	17	1.4%	149	3.8%	-2.0	n.s.
Change:	1976-1977	17	-2.7%	147	+0.6%	-1.5	n.s.
	1975-1977	17	-1.2%	144	+0.8%	-1.4	n.s.
2-Year Public							
Static:	1978	9	7.0%	601	9.5%	-0.5	n.s.
Change:	1977-1978	9	+1.7%	593	+1.0%	0.2	n.s.
	1976-1978	9	+3.7%	586	+1.1%	0.5	n.s.
	1975-1978	9	-0.1%	578	+2.2%	-0.5	n.s.
Static:	1977	9	5.3%	593	8.5%	-0.8	n.s.
Change:	1976-1977	9	+2.0%	585	+0.1%	1.3	n.s.
	1975-1977	9	-1.8%	577	+1.1%	-0.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 53: Full-Time Faculty Members

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	40	776	74	-8.1	***
Change:	1977-1978	71	+7.9%	766	+5.1%	0.6	n.s.
	1976-1978	69	+0.5%	743	+6.8%	-1.9	n.s.
	1975-1978	71	+3.5%	747	+8.0%	-0.8	n.s.
Static:	1977	71	40	769	73	-7.5	***
Change:	1976-1977	69	-1.8%	742	+3.3%	-1.4	n.s.
	1975-1977	71	-2.0%	747	+4.8%	-1.4	n.s.
2-Year Private							
Static:	1978	16	13	148	22	-3.0	*
Change:	1977-1978	16	-10.4%	138	+8.0%	-2.2	n.s.
	1976-1978	15	-12.7%	131	+12.6%	-3.5	*
	1975-1978	16	-6.5%	129	+29.6%	-2.1	n.s.
Static:	1977	16	15	138	22	-2.3	n.s.
Change:	1976-1977	15	+1.3%	130	+3.1%	-0.2	n.s.
	1975-1977	16	+5.1%	129	+20.4%	-0.9	n.s.
2-Year Public							
Static:	1978	9	38	598	113	-7.7	***
Change:	1977-1978	9	+0.6%	584	+3.2%	-0.6	n.s.
	1976-1978	9	+10.5%	568	+11.3%	-0.1	n.s.
	1975-1978	9	+11.8%	557	+19.9%	-0.9	n.s.
Static:	1977	9	39	585	109	-6.8	***
Change:	1976-1977	9	+9.0%	568	+7.7%	0.3	n.s.
	1975-1977	9	+11.4%	557	+16.0%	-0.3	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Note: Unlike most of the other indicators, which have their change forms computed as a simple difference in values between years, change on this indicator is computed as percent change in value between years.

Indicator 54: FTE Students/Full-Time Faculty Member

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	71	16.5	775	21.2	-4.9	***
Change:	1977-1978	71	-1.7	764	-0.8	-1.1	n.s.
	1976-1978	69	-1.6	742	-0.4	-1.3	n.s.
	1975-1978	71	-2.3	747	+0.9	-2.4	n.s.
Static:	1977	71	18.2	768	22.7	-3.4	**
Change:	1976-1977	69	-0.2	742	-0.0	-0.2	n.s.
	1975-1977	71	-0.6	747	+1.6	-1.8	n.s.
2-Year Private							
Static:	1978	16	24.0	148	30.4	-1.8	n.s.
Change:	1977-1978	16	+1.4	138	-0.8	0.6	n.s.
	1976-1978	15	+2.4	131	-2.9	1.3	n.s.
	1975-1978	16	+0.1	129	+2.4	-0.6	n.s.
Static:	1977	16	22.6	138	30.2	-2.5	n.s.
Change:	1976-1977	15	+0.2	130	-1.9	0.9	n.s.
	1975-1977	16	-1.2	129	+3.5	-1.6	n.s.
2-Year Public							
Static:	1978	9	20.6	598	29.7	-2.6	n.s.
Change:	1977-1978	9	+0.7	583	-0.1	0.4	n.s.
	1976-1978	9	-4.6	568	-3.5	-0.4	n.s.
	1975-1978	9	-0.2	557	+0.1	-0.2	n.s.
Static:	1977	9	19.9	584	27.5	-4.5	**
Change:	1976-1977	9	-5.3	567	-3.3	-1.0	n.s.
	1975-1977	9	-0.9	556	+0.4	-1.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 55: Mean Salary of Full-Time Faculty Members
(standardized to a 9-month academic year)

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	67	$12,624	730	$14,704	-7.9	***
Change:	1977-1978	67	-$340	710	-$52	-2.5	n.s.
	1976-1978	67	-$872	715	-$44	-6.7	***
	1975-1978	67	-$1,500	708	-$119	-9.3	***
Static:	1977	69	$12,982	740	$14,777	-6.8	***
Change:	1976-1977	69	-$533	728	-$11	-4.7	***
	1975-1977	69	-$1,127	717	-$76	-7.4	***
2-Year Private							
Static:	1978	13	$10,454	137	$10,938	-0.7	n.s.
Change:	1977-1978	13	-$330	126	+$73	-2.0	n.s.
	1976-1978	13	-$478	126	-$77	-1.8	n.s.
	1975-1978	13	-$1,381	120	-$255	-3.9	***
Static:	1977	16	$10,602	129	$10,940	-0.5	n.s.
Change:	1976-1977	15	-$194	124	+$81	-1.3	n.s.
	1975-1977	16	-$1,017	119	-$261	-4.5	***
2-Year Public							
Static:	1978	9	$12,910	585	$15,796	-2.6	*
Change:	1977-1978	9	-$651	567	+$136	-1.4	n.s.
	1976-1978	9	-$219	558	+$198	-1.3	n.s.
	1975-1978	9	-$2,110	542	+$206	-6.1	***
Static:	1977	9	$13,561	577	$15,642	-1.9	n.s.
Change:	1976-1977	9	+$433	560	+$77	0.8	n.s.
	1975-1977	9	-$1,459	546	+$85	-2.7	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Note: Extreme decreases in mean faculty salaries over three years (1975-1978) were used to identify distress and therefore the change form of this indicator is assumed to be related to distress and cannot be validated by these analyses.

Indicator 56: Public College Tuition for In-State Undergraduates

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978		NOT APPROPRIATE				
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						
2-Year Private							
Static:	1978		NOT APPROPRIATE				
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						
2-Year Public							
Static:	1978	9	$314	598	$297	0.3	n.s.
Change:	1977-1978	9	+$31	589	-$2	1.1	n.s.
	1976-1978	9	+$24	577	-$0	1.1	n.s.
	1975-1978	9	-$14	567	-$62	1.6	n.s.
Static:	1977	9	$283	592	$294	-0.2	n.s.
Change:	1976-1977	9	-$6	580	+$1	-1.0	n.s.
	1975-1977	9	-$45	570	-$61	0.6	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 57: Public College Tuition for Out-of-State Undergraduates

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978		NOT APPROPRIATE				
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						
2-Year Private							
Static:	1978		NOT APPROPRIATE				
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						
2-Year Public							
Static:	1978	9	$783	596	$1,017	-1.4	n.s.
Change:	1977-1978	9	+$38	588	+$6	0.6	n.s.
	1976-1978	9	-$6	576	+$32	-0.5	n.s.
	1975-1978	9	+$71	566	+$34	0.3	n.s.
Static:	1977	9	$745	588	$1,012	-1.6	n.s.
Change:	1976-1977	9	-$44	576	+$25	-2.3	n.s.
	1975-1977	9	+$33	565	+$31	0.0	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 58: Private College Tuition for Undergraduates

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	72	$2,415	791	$2,363	0.5	n.s.
Change:	1977-1978	72	-$5	782	+$16	-1.0	n.s.
	1976-1978	71	+$18	775	+$58	-1.1	n.s.
	1975-1978	70	-$24	770	+$79	-3.6	**
Static:	1977	72	$2,420	782	$2,356	0.7	n.s.
Change:	1976-1977	71	+$24	775	+$42	-0.7	n.s.
	1975-1977	70	-$3	770	+$62	-2.3	n.s.
2-Year Private							
Static:	1978	17	$1,941	156	$1,554	2.5	n.s.
Change:	1977-1978	17	-$45	147	+$17	-1.0	n.s.
	1976-1978	17	+$57	145	+$45	0.2	n.s.
	1975-1978	17	+$70	142	+$47	0.3	n.s.
Static:	1977	17	$1,986	148	$1,551	2.8	*
Change:	1976-1977	17	+$103	146	+$25	1.5	n.s.
	1975-1977	17	+$116	143	+$25	1.3	n.s.
2-Year Public							
Static:	1978	NOT APPROPRIATE					
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 59: Private College Tuition for Graduate Students

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	15	$2,479	239	$2,302	0.7	n.s.
Change:	1977-1978	15	-$14	229	+$35	-0.6	n.s.
	1976-1978	14	+$60	219	+$98	-0.3	n.s.
	1975-1978	14	+$152	211	+$147	0.0	n.s.
Static:	1977	16	$2,419	240	$2,279	0.6	n.s.
Change:	1976-1977	15	+$56	227	+$51	0.0	n.s.
	1975-1977	15	+$131	218	+$97	0.3	n.s.
2-Year Private							
Static:	1978	NOT APPROPRIATE					
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						
2-Year Public							
Static:	1978	NOT APPROPRIATE					
Change:	1977-1978						
	1976-1978						
	1975-1978						
Static:	1977						
Change:	1976-1977						
	1975-1977						

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 60: Room Charges for Students

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	68	$617	732	$604	0.5	n.s.
Change:	1977-1978	68	-$16	721	+$3	-3.3	*
	1976-1978	67	-$20	719	+$9	-2.2	n.s.
	1975-1978	66	-$23	714	+$11	-2.6	*
Static:	1977	68	$634	723	$602	1.4	n.s.
Change:	1976-1977	67	-$3	719	+$5	-0.8	n.s.
	1975-1977	66	-$5	714	+$8	-1.1	n.s.
2-Year Private							
Static:	1978	16	$641	118	$541	1.7	n.s.
Change:	1977-1978	16	-$41	117	-$7	-1.2	n.s.
	1976-1978	15	+$17	115	-$3	0.4	n.s.
	1975-1978	15	-$19	113	-$1	-0.3	n.s.
Static:	1977	16	$682	119	$550	1.6	n.s.
Change:	1976-1977	15	+$61	117	+$4	1.3	n.s.
	1975-1977	15	+$25	115	+$3	0.4	n.s.
2-Year Public							
Static:	1978	2	$724	135	$431	2.7	*
Change:	1977-1978	2	-$9	130	-$3	-0.2	n.s.
	1976-1978	2	+$16	129	+$3	0.2	n.s.
	1975-1978	2	+$3	120	+$2	0.0	n.s.
Static:	1977	2	$733	131	$433	2.8	*
Change:	1976-1977	2	+$25	129	+$5	0.4	n.s.
	1975-1977	2	+$12	120	+$5	0.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001

Indicator 61: Board Charges for Students

College Sector and Form of Indicator		Distressed in 1978 N	Distressed in 1978 Mean	Not Distressed in 1978 N	Not Distressed in 1978 Mean	t-value	Prob.
4-Year Private							
Static:	1978	66	$793	718	$776	1.1	n.s.
Change:	1977-1978	66	-$8	709	-$12	0.4	n.s.
	1976-1978	65	-$27	706	-$10	-0.7	n.s.
	1975-1978	64	+$0	702	-$1	0.1	n.s.
Static:	1977	68	$798	712	$790	0.5	n.s.
Change:	1976-1977	67	-$16	707	+$0	-0.9	n.s.
	1975-1977	66	+$12	702	+$10	0.2	n.s.
2-Year Private							
Static:	1978	14	$777	109	$774	0.1	n.s.
Change:	1977-1978	14	+$43	107	-$12	1.1	n.s.
	1976-1978	13	+$54	105	+$8	0.7	n.s.
	1975-1978	13	+$59	104	-$3	0.9	n.s.
Static:	1977	15	$727	110	$779	-1.1	n.s.
Change:	1976-1977	14	+$8	108	+$16	-0.4	n.s.
	1975-1977	14	+$5	107	+$4	0.0	n.s.
2-Year Public							
Static:	1978	2	$794	124	$681	1.0	n.s.
Change:	1977-1978	2	+$92	119	-$15	0.8	n.s.
	1976-1978	2	+$119	117	+$7	1.3	n.s.
	1975-1978	2	+$108	113	+$14	1.0	n.s.
Static:	1977	2	$702	121	$690	0.1	n.s.
Change:	1976-1977	2	+$27	118	+$26	0.0	n.s.
	1975-1977	2	+$16	114	+$27	-0.1	n.s.

n.s. = not significant
* = probability ≤ .01
** = probability ≤ .001
*** = probability ≤ .0001